AMERICAN FARMERS ALMANAC 2025

A Handy, Useful and Amusing Resource for Planters, Food Lovers and Clever People of All Natures

- WEATHER FORECASTS
- GARDENING GUIDES
- ASTRONOMICAL EVENTS

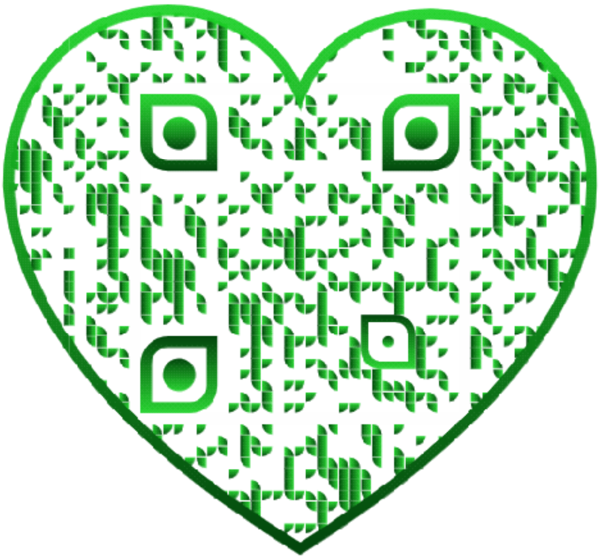
- HISTORICAL INTERESTS
- TRAVEL IDEAS
- HOUSEHOLD TIPS
- RECIPES

'Look before, or you'll find yourself behind.'
– Benjamin Franklin

200 YEARS OF KNOWLEDGE TESTED AND READY FOR TOMORROW

a360media Digest

$10.95 US/CAN
DISPLAY UNTIL 1/27/25



AMERICAN FARMERS ALMANAC 2025

A handy, useful and amusing resource for planters, food lovers and clever people of all natures.

Exhibiting more appeal than the average person, more truth than the average publication, and more fun than the average almanac.

The larger the island
of knowledge, the
longer the shoreline
of wonder.
—Ralph W. Sockman

An investment in knowledge pays
the best interest. Knowledge is the
treasure of a wise man. Investment in
knowledge always pays the best interest.
—Benjamin Franklin

Little red wagon,
little red bike. I ain't
no monkey, but
I know what I like.
—Bob Dylan

TABLE OF CONTENTS

Introduction 6

THE GREAT WIDE OPEN

The Quarter-Century Report 8
Soup—It's On! 16
Almanac Ink: Tool Quiz 20
The Art of the Victory Garden 22
You Asked, We Answer 28

GARDEN & FARM

Yard-Long Beans 36
A Beautiful Blooming Menace 38
Best in Hoe 40
A Shocking Way to Grow Peanuts 42
Good Neighbors, Bad Neighbors 45
Grow in the Zone Planting Calendar 46
Frost Dates and Growing Seasons 48
Room to Grow 50
Why Did the Sheep Cross the Town? 52

FOOD

Nothing Is Better than Butter 56
Return of the Oyster 58
A Good Day to Dine 64
Turning Weather into Wine 66
Oils for All 70
Corn, Peach and Burrata Salad 73
Almanac Ink: Milk 74

AMERICAN PURSUITS

Raft the Grand Canyon! 76
10th Mountain Division Huts 82
Field Guide to American Monsters 86
A Visit to Keeneland 92
Almanac Ink: The Darkside Five 96

HISTORY

Thomas Jefferson Soaked Here 98
World's Fair Structures: What Are They Now? 100
Pony Express Route 106
Year of the Snake 108

Freedom's Fight at Camp Nelson 110
Monumental States 116

WEATHER

How Are Seasonal Forecasts Made? 120
Temperature & Precipitation Outlook 121
Regional Forecasts 122
The Reasons for the Seasons 146
2025 Hurricane Names 148
Hurricane Classification 150
Tornado Classification 151
Beaufort Wind Force Scale 152
Wind Chill 153
Get to Know El Niño and La Niña 154
Tides & Currents Glossary 156

ASTRONOMY

2025 Lunar Eclipse 158
Calendar Pages Explanation 159
Calendar Pages 160
2025 Meteor Showers 208
Visible Planets 210
Bright Stars Transit Times 212
Star Rise and Set Times 213
Astronomical Twilight Hours 214
Astronomical Terms Glossary 215

REFERENCE

2025–2028 Calendars 218
Metric Conversions 219
Plastics Recycling Numbers 220
Moon Phases and Names 221
Animal Group Names 222
Historical Eras 223
U.S. Presidents and V.P.s 224
U.S. States in Order of Founding 225

“To you, it’s the perfect lift chair. To me, it’s the best sleep chair I’ve ever had.”

— J. Fitzgerald, VA

OVER 100,000 SOLD

Pictured is Luxurious & Lasting **Miralux™**.
Ask about our 5 Comfort Zone chair.

3 CHAIRS IN ONE:
SLEEP/RECLINE/LIFT

You can’t always lie down in bed and sleep. Heartburn, cardiac problems, hip or back aches – and dozens of other ailments and worries. Those are the nights you’d give anything for a comfortable chair to sleep in: one that reclines to exactly the right degree, raises your feet and legs just where you want them, supports your head and shoulders properly, and operates at the touch of a button.

Our Perfect Sleep Chair® does all that and more. More than a chair or recliner, it’s designed to provide total comfort. **Choose your preferred heat and massage settings, for hours of soothing relaxation.** Reading or watching TV? Our chair’s recline technology allows you to pause the chair in an infinite number of settings. And best of all, it features a powerful lift mechanism that tilts the entire chair forward, making it easy to stand. You’ll love the other benefits, too. It helps with correct spinal alignment and promotes back pressure relief, to prevent back and muscle pain. The overstuffed, oversized biscuit style back and unique seat design will cradle you in comfort. Generously filled, wide armrests provide enhanced arm support when sitting or reclining. **It even has a battery backup in case of a power outage.**

White glove delivery included in shipping charge. Professionals will deliver the chair to the exact spot in your home where you want it, unpack it, inspect it, test it, position it, and even carry the packaging away! You get your choice of Luxurious and Lasting Miralux, Genuine Leather, stain and liquid repellent Duralux with the classic leather look, or plush MicroLux microfiber, all handcrafted in a variety of colors to fit any decor. **Call now!**

journey perfect sleep chair®

Call toll-free now

1-888-280-8736

Please mention code **606511** when ordering.

REMOTE-CONTROLLED
EASILY SHIFTS FROM FLAT TO A STAND-ASSIST POSITION

Now available in a variety of colors, fabrics and sizes.

Miralux™
luxurious & lasting
LIGHT GRAY · SADDLE · CHOCOLATE

Long Lasting DuraLux®
stain & liquid repellent
TAN · CHOCOLATE

Genuine Leather
classic beauty & style
CHESTNUT

MicroLux® Microfiber
breathable & amazingly soft
BURGUNDY · TAN · DARK MOSS · BLUE

Scan with phone camera

enjoying life never gets old™

journey HEALTH & LIFESTYLE®

Because each Perfect Sleep Chair is a made-to-order bedding product it cannot be returned, but if it arrives damaged or defective, at our option we will repair it or replace it. Delivery only available in contiguous U.S. This product is not covered by Medicare or Medicaid.

© 2024 Journey Health & Lifestyle.

ACCREDITED BUSINESS A+

46642

THE OLD AND THE NEW

Welcome to *American Farmers Almanac 2025*! After months of research, planning and work, we're thrilled to finally harvest this bountiful crop of knowledge and amusement. Whether you consume it in feast-sized portions or judicious bites, we predict lasting feelings of satisfaction.

Almanacs have been around since the founding of the nation. And while it's wise to preserve their peculiar traditions, every new edition is also an opportunity to assess and mold the contents for today's clever readers. For instance, it's understandable that many almanacs, having been founded in Boston, originated their astronomical observations on what was visible at that time from that locale. What makes less sense is maintaining that system for more than two centuries, requiring users to flip back and forth from the tables to a correction key and perform some head-scratching math to determine sunrise and sunset times for their own far-flung locations. Here, we have endeavored to make the process easier, calculating and listing those times for 15 cities and surrounding areas that cover the country from coast to coast—no flip-flapping required.

While an almanac by its nature provides weather forecasts and astronomical data, it also delves into history, garden advice and myriad other topics of interest to a curious reader. *American Farmers Almanac 2025* make a special point of spotlighting travel ideas, and often the intersection of travel and history, recognizing that the United States is an awe-inspiring land to encounter both. Well, let's get at it, shall we?

Your humble editor,

Steve Russell

the great wide open

A compelling compendium of thoughts, facts and ideas to get us on our way.

THE QUARTER-CENTURY REPORT

HARD TO BELIEVE, BUT 25 YEARS HAVE PASSED SINCE WE ENTERED INTO A FRESH, NEW MILLENNIUM. HOW MUCH HAS CHANGED IN THAT TIME? LET'S GO BACK TO THE FUTURE.

FARMING

Amount of U.S. farmland: In 2002, the USDA Census of Agriculture reported that the United States had 2.13 million farms totaling 938 million acres of farmland. After a half-decade uptick in the number of farms, those numbers again began to decline. The most recent agriculture census, conducted in 2022, reported 1.9 million farms, a 10 percent decline. Not surprisingly, the total amount of farmland also has declined in that period, down 880 million acres. Nonetheless, over the same two decades, large-scale farming has resulted in larger average farm sizes, with the largest 2 percent of farms now controlling 42 percent of farmland. Overall, slightly less than two out of every five acres in the U.S. are currently used as farmland.

Farmers' markets: In the year 2000, USDA research indicated that just under 3,000 farmers' markets, defined as two or more farm vendors selling directly to customers at

a recurrent physical location, operated in the country. That number continued to rise, dramatically so in the years immediately following the 2008 recession, before growth again became more modest. USDA's 2022 research showed 8,600 farmers' markets in operation, a growth of nearly 295 percent. Looks like a lot of us like our local farmers' market!

Meat (and pretend meat) consumption: Roasted, grilled, fried, smoked or cured, we Americans like our meat. Over the last 25 years, total consumption of beef, pork and chicken has averaged 250 pounds per year per person, starting at that figure in 2000, dipping to a low of 235 pounds in 2014, rising again to 264 pounds in 2020, and shedding a few pounds during the recent inflationary period. Beef has undergone the most variance, starting the century at about 68 pounds per person, dipping to a low of 54 pounds in 2015, and rallying to 56 pounds in 2024. Chicken is still tops in the pecking order, clucking into the millennium at 80 pounds per person and pretty much flapping steadily upward to 115 pounds today. Good, old reliable pork, meanwhile, started and closed the quarter-century at right around 50 pounds per person.

CLIMATE SCIENCE

Weather: Any sober study of climate patterns and change should analyze data from as long a period as possible. That said, according to NASA Earth Observatory, 18 of the planet's 19 warmest years on record have occurred since 2000, with 2023 registering as the warmest year ever recorded. Over that same period, the

U.S. experienced seven major hurricanes from 2001 to 2010 (including 2005's history-making Katrina), four from 2011 to 2020, and three from 2021 to 2023, according to the National Hurricane Center. Destructive tornadoes perhaps have been an even bigger story, though with a twist: According to the National Oceanic and Atmospheric Administration's National Severe Storm Laboratory, there has been a slight decline in the number of days on which tornadoes occur, but more outbreaks on those active days, meaning the average of about 1,200 tornados a year has remained fairly steady. Our impression of increased destruction is accurate, though, as outbreaks have shifted beyond the Midwest Great Plains to more frequently strike more densely populated areas in the Southeast. Wildfires are definitely worse, right? Yes and no. Many factors have kept the average number of annual wildfires at around 70,000. But the total area burned has increased to an average around 7 million acres a year, including peak years in 2015 and 2020, according to the National Interagency Fire Center. Due to Western drought conditions, wildfire season also is occurring earlier, with the peak shifting from August to July. The impact of drought has been especially dramatic in California, where burn zones have increased fivefold over the previous 25 years.

Alternative energy: If you spotted a house with solar panels in 2000, it likely also had a zombie-apocalypse backyard bunker. Now solar energy is a common sight along rooftops and massive roadside "solar farms." Indeed, the amount of solar energy capacity in the U.S. was nearly too low to be measured before 2008, and has experienced impressive growth every year since 2012, reaching 140 gigawatts in 2023, a ninefold increase over a decade. According to the U.S. Energy Information Administration, that accounts for 4 percent of U.S. electricity generation, compared to 6 percent globally. Since 2000, the cost of photovoltaic panels has steadily decreased (largely due to production in China), while efficiency of converting sunshine to energy has increased. Speaking of a quarter-century, that's about how long most photovoltaic panels are expected to function before needing replacement. Though wind energy is much less prevalent on a residential level, it actually blows away solar energy in terms of contributing 10 percent of U.S. electricity generation. This represents exponential growth since 2000, when wind generated less than 1 percent. Makes sense, given that multistory wind turbines were absent from offshore waters and Midwest cornfields at the turn of the century.

TECHNOLOGY

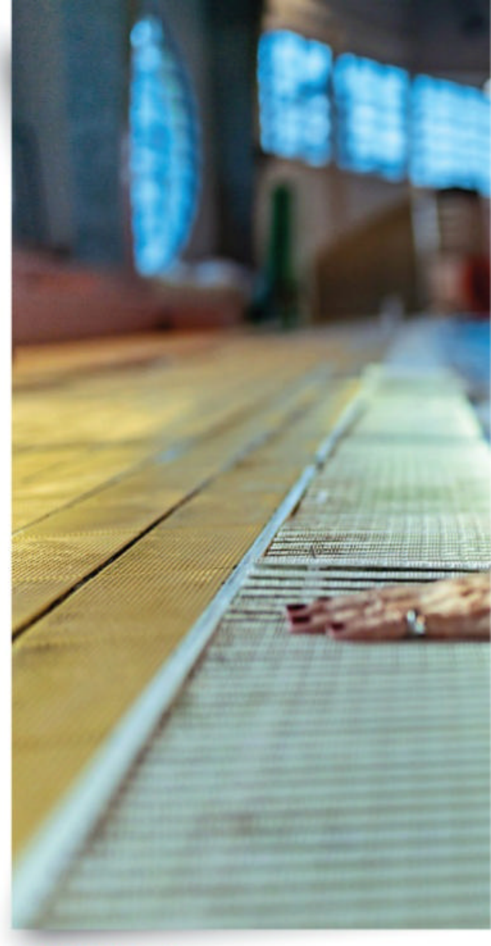
Society has been impacted by no advance more rapid and pervasive than that of technology over the last quarter century. Let us count the ways—unless you already have an app for that.

The internet: You've heard of the internet, right? In 2000, it had 361 million users worldwide; today it's 5.4 billion, or 67 percent of the population. (Facebook alone has 3 billion users.) WiFi, invented in 2000, was barely known in American households. Today we seamlessly connect to it at home, work, school and pretty much everywhere else. How we use the internet also has rapidly evolved. In the early 2000s, it was primarily a source of information, from history to movie showtimes. Now, of course, we use it most every way: buying groceries, playing games, paying bills, finding romance, conducting meetings, you name it.

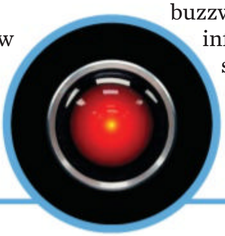
Smartphones: Owing to swift changes in technology and availability, the century's first few years saw a surge in mobile phone

ownership, leaping from 28 percent of the U.S. population in 2000 to 50 percent just two years later, and 67 percent in 2005. The first cellphones that could access the internet, soon to be dubbed "smartphones," were introduced in 2001, but the high cost of using data was prohibitive for many consumers. Apple's 2007 introduction of the iPhone, equipped with touchscreen, camera and capability for something called "apps," turned the tide. There are now 7 billion smartphone users worldwide, and we don't have to tell you that those billions of people seem to be on them all the time.

Electric cars: Toyota started selling its Prius electric-gas hybrid stateside in 2000, but you likely didn't spot one until a redesigned hatchback model was introduced in 2004, prompting you to say, "Whoa, that thing doesn't make any noise!" Though consumers still struggle with range anxiety and sticker shock, technology advances and a desire to move beyond fossil-fuels dependency has driven EV sales up to 7 percent of the market in 2025, though growth appears to be slowing recently. The future of EVs is somewhat unpredictable; California's pledge that all new cars sold in the state be EVs by 2035 will no doubt have an impact. Electric or otherwise, we're still waiting for flying cars.



Artificial intelligence: What had long seemed like a sci-fi doomsday plot device jumped from theory to reality with the sudden public launch of ChatGPT, a chatbot and virtual assistant, in late 2022. In the brief time since, AI has become both buzzword and real world, influencing everything from school essays to financial planning to deep-fake videos. Ethicists and elected officials continue to sound alarms over



potential misuse and unintended consequences (like, you know, an anti-human uprising of machines), but AI appears here to stay.

HEALTH

Life expectancy: Though U.S. life expectancy took a statistical hit during the COVID pandemic, numbers have regained some vigor, reaching an average of 79.25 years, up about three years since 2000. Beyond COVID, other factors have contributed both negatively and positively. On the one hand, obesity has increased from 30 percent to 42 percent of the adult population. On the other hand, cancer rates have declined 5 percent, while early screening and treatment advancements have lowered cancer mortality by 27 percent.

Mental health: Are more people experiencing mental illness, or are more people now willing to seek help? Probably a bit of both, but it's hard to deny that several factors have contributed to a real rise since 2000.

Immersive use of social media has manifested in widespread feelings of anxiety and depression, especially among youth. The fear and isolation of a deadly, once-in-a-century pandemic exacerbated these trends across all demographics. And the easy availability of legal and illegal opioids fostered an addiction epidemic that we're still reckoning with today, having caused more than 600,000 overdose deaths in America since 1999. Fortunately, we as a society also have come a long way in the recognizing and treatment of serious mental illness.

Gut microbiome: It wasn't too many years ago that if you heard the word "probiotic," it was probably in a Jamie Lee Curtis commercial for poop-inducing yogurt. Since then, digestive health has become a major new focus in medical circles, introducing the term "gut microbiome" into standard parlance. Apparently, it took us this long to discover that the trillions (that's right, trillions) of bacteria, viruses and fungi cohabitating in the cecum "pocket" of the large intestine have a significant effect on health. Together, they function almost like an extra organ, affecting not just digestion, but the immune system, weight and heart health. There is much, much more to be learned, but the basic idea is that you really want to keep your gut microbiome in balance with restful sleep, stress avoidance and a healthy diet. Why do we think this is the beginning of something big? It's a gut feeling.

Ecofan®
Exceptional, Eco-Conscious, Efficient
CIRCULATE WARM AIR FASTER AND BURN LESS WOOD
1-800-567-3556
Ecofan.com

SOUP IT'S ON!

Soup isn't much on our minds when days are sunny and warm. Then, as soon as the weather turns frosty, snowy and otherwise wintery, we crave soup so much we practically crawl into a steaming bowl and hibernate. If you're like us, though, your repertoire of go-to broths could use a boost. So read on for a quartet of recipes for chill-fighting favorites—then grab a spoon and slurp away!

SPICY PEANUT TOFU SOUP

Serves 6–8

1 yellow onion, roughly chopped
1 carrot, roughly chopped
1 jalapeño pepper, roughly chopped (and seeds removed if desired to be less spicy)
2 inches fresh ginger, peeled and roughly chopped
4 cloves garlic, smashed
2 quarts water
1 can coconut milk
1 can diced tomatoes
1 can crushed tomatoes
3 tbsp curry powder
2 to 3 cups peanut butter
Salt, to taste
1 lb firm tofu, cut into small cubes
Cilantro

1. In a large pot, sauté the onion, carrot, jalapeño, ginger and garlic until the onions are translucent.
2. Add the water, coconut milk, tomatoes and curry powder. Bring to a boil, then reduce heat and let simmer for 30 minutes.
3. Transfer the soup to blender in batches, adding a portion of the peanut butter to each batch, and puree. Or if you have an immersion blender, add the peanut butter to pot and puree.
4. Return the soup to pot and simmer 20 minutes. Add salt to taste, if necessary. Add the tofu 10 minutes before serving to allow it to warm up. Ladle into bowls and garnish with cilantro sprigs.

POSOLE VERDE WITH PORK

Serves 8–10

¼ cup vegetable oil
2 lbs pork butt, fat trimmed, cubed
1 yellow onion, chopped
1 poblano pepper, chopped
3 jalapeño peppers, minced
3 tbsp garlic, minced
2 tbsp cumin
1 tbsp coriander
1 tbsp salt
2 tsp black pepper
1 can hominy (16 oz), drained
½ cup beer
3 qts chicken stock
2 lbs tomatillos
3 tbsp fresh oregano
1 bunch cilantro
1 bunch green onion
¼ cup lime juice
½ lb red radish, sliced thin
2 avocados, peeled and sliced
2 limes, sliced into wedges

1. Heat the oil in a large, heavy-bottom pot over medium heat. Add the pork cubes and turn to brown on all sides.
2. Add the onion, peppers, garlic, spices, salt and pepper, and sauté until the vegetables are fragrant and soft, 3 to 5 minutes.
3. Add the hominy and cook for 2 minutes. Add the beer and deglaze bottom of pot. Add the stock and reduce heat to simmer.
4. Meanwhile, in a blender or food processor, add the tomatillos, oregano, half the cilantro, half the green onions and lime juice. Blend until smooth.
5. Add half of the tomatillo mixture to the meat and hominy in pot. Simmer until pork is tender.
6. Shortly before serving, add the remaining tomatillo mixture. (Waiting to do so gives the soup a more vibrant green color.) Simmer just long enough to heat.
7. Pick the remaining whole cilantro leaves and slice the remaining green onions. Ladle the soup into bowls and garnish with the radish, avocado, cilantro and green onion. Serve with lime wedges.

WHITE BEAN AND COLLARDS SOUP Serves 6–8

1 lb dried great northern beans
1 large yellow onion, diced
3 ribs celery, diced
1 red bell pepper, diced
1 yellow bell pepper, diced
1 poblano pepper, diced
2 tbsp olive oil
2 cloves garlic, minced
1 qt water
5 cups chicken or vegetable stock
1 tbsp dried herbs de Provence
1/4 tsp white pepper
1 large bunch collard greens (or kale), stems and center ribs discarded, coarsely chopped
Red wine vinegar
Salt

1. Soak the beans in plenty of water overnight. Drain and rinse.
2. In a large pot over medium heat, sauté the onion, celery and peppers in the olive oil, stirring occasionally, until soft but not browned, 4 to 5 minutes. Add the garlic and sauté for 1 minute more.
3. Add the water, stock, beans, herbs de Provence and white pepper, and bring just to a boil. Reduce to a simmer and cook uncovered until the beans are tender, about 45 minutes.
4. Stir the chopped greens into the soup and simmer 15 minutes, stirring occasionally, until the greens are tender. If the soup is too thick, add more stock to reach desired consistency. Add red wine vinegar and salt to taste.

INDONESIAN CHICKEN NOODLE SOUP

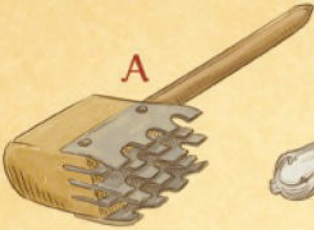
Serves 6

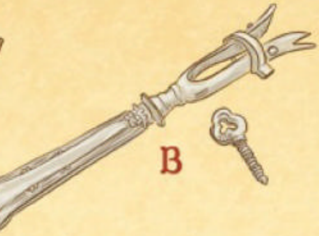
3 boneless, skinless chicken breasts
2 tbsp chicken bouillon
2 stalks lemongrass, bruised
4 shallots, roughly chopped
4 inches fresh ginger, peeled and sliced
6 garlic cloves
2 tsp ground turmeric
2 tsp ground coriander
4 tbsp vegetable oil
Salt and pepper
16 oz mung bean vermicelli or rice noodles
Cabbage (green or red or both), thinly shredded
1 medium tomato, diced
1 lime, sliced into wedges

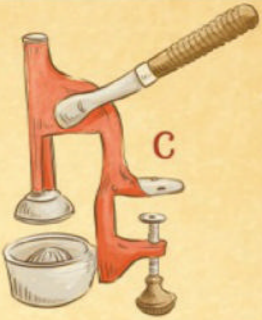
1. In a large pot, boil the chicken with 12 cups water, bouillon and lemongrass until cooked through, about 20 to 25 minutes. Remove the chicken and lemongrass to cool, then shred chicken into coin-sized pieces. Reserve the stock.
2. Meanwhile, place the shallots, ginger, garlic, turmeric, coriander and 2 tbsp of the oil in a food processor and blend until a paste forms.
3. Heat the remaining 2 tbsp oil in a large saucepan over medium heat. Add the spice paste and cook until fragrant, about 5 minutes. Add the stock, chicken and lemongrass, and bring to a boil. Reduce the heat and simmer for 10 minutes. Season with salt and pepper to taste.
4. Meanwhile, soak the noodles in boiling water for 2 minutes, then drain. Rinse with cold water and drain again (or follow package directions).
5. Arrange the noodles in bowls, pour hot chicken soup over noodles, and garnish with cabbage, tomato and lime wedges.

Almanac INK

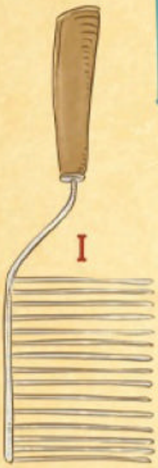
BY BAMBI EDLUND

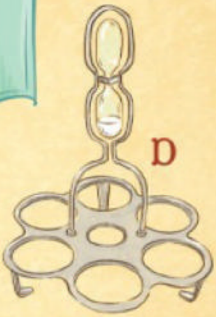






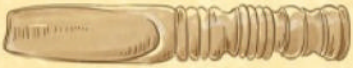
WHAT KIND OF TOOL are you, ANYWAY?

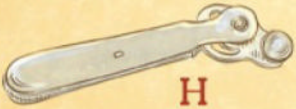


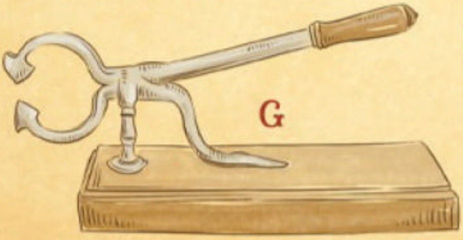


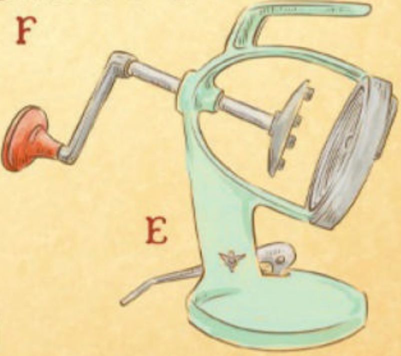
OKAY, SMARTYPANTS, LET'S SEE HOW MUCH YOU KNOW. MATCH THE DESCRIPTION TO THE OLDE-TYME TOOL.

1 Lemon Juicer
2 Cake Cutter
3 Apple Corer
4 Egg Boiler
5 Meat Tenderizer
6 Can Opener
7 Sugar nippers
8 Ice Shaver
9 Lamb Leg Holder









bambiedlund.com

ANSWERS: A:5 B:9 C:1 D:4 E:8 F:3 G:7 H:6 I:2

MADE IN TENNESSEE
Financing available with approved credit
LIFETIME LIMITED WARRANTY
EASE OF USE CERTIFIED
Arthritis Foundation
safestep
ConsumerAffairs
AUTHORIZED PARTNER
BBB.
ACCREDITED BUSINESS

NORTH AMERICA'S

#1 Selling Walk-In Tub

Advanced Air System–
Introducing MicroSoothe!

The best walk-in tub just got better with breakthrough technology! ***Presenting the all new Safe Step Walk-In Tub featuring MicroSoothe®.*** An air system so revolutionary, it oxygenates, softens and exfoliates skin, turning your bath into a spa-like experience. Constructed and built right here in America for safety and durability from the ground up, and with more standard features than any other tub.

✓ Heated seat providing warmth from beginning to end

✓ Carefully engineered hydro-massage jets strategically placed to target sore muscles and joints

✓ High-quality tub complete with a comprehensive lifetime warranty on the entire tub

✓ Top-of-the-line installation and service, all included at one low, affordable price

You'll agree – there just isn't a better, more affordable walk-in tub on the market.

CALL TODAY AND RECEIVE A

FREE SHOWER PACKAGE

PLUS $1600 OFF*

FOR A LIMITED TIME ONLY

Call Toll-Free 1-800-995-0936

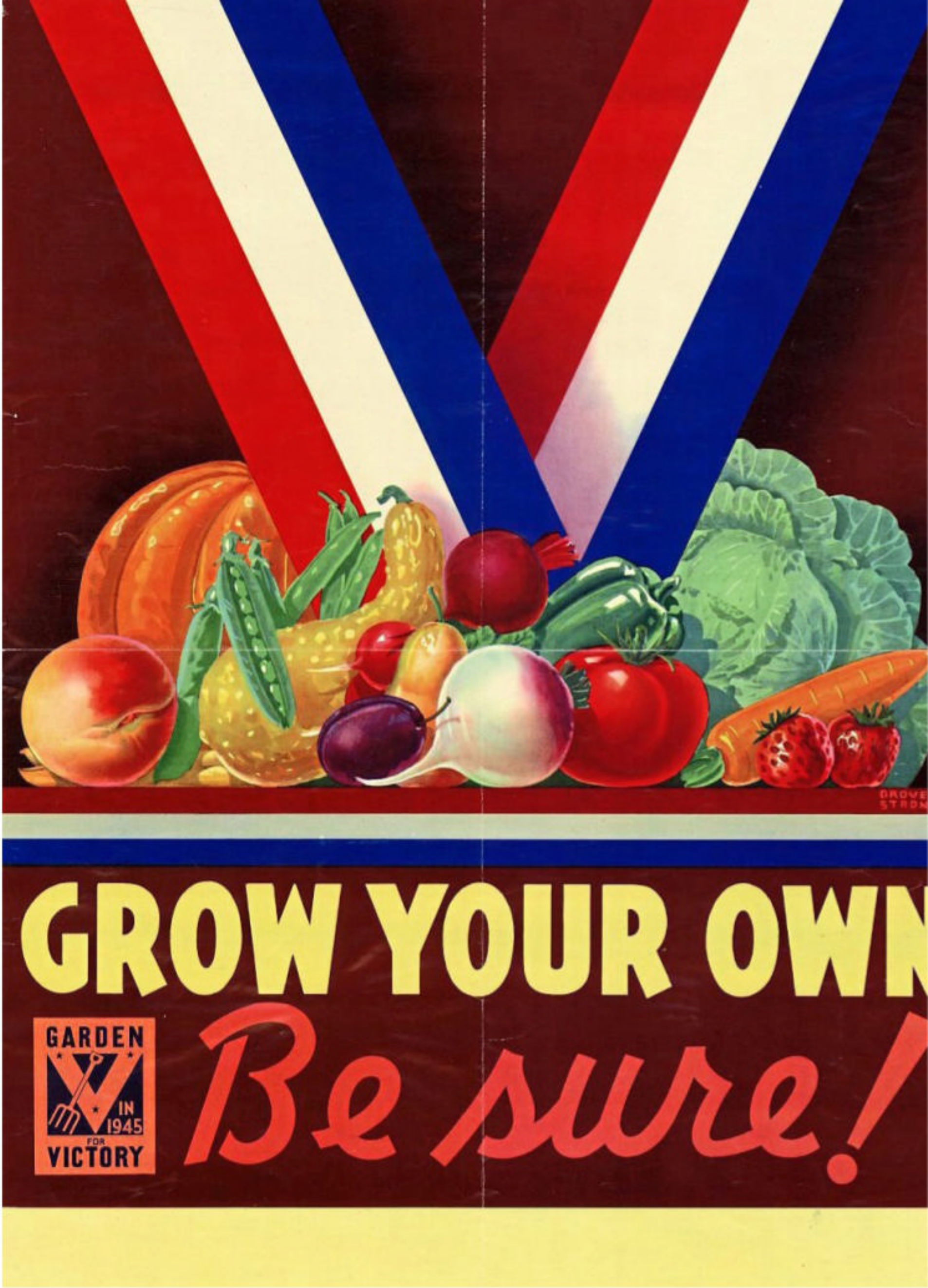
safestep®

www.YourSafeStepTub.com

For your FREE information kit and our Senior Discounts, Call Today Toll-Free

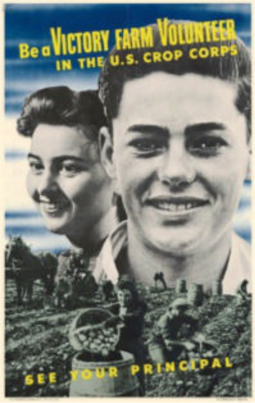
1-800-995-0936

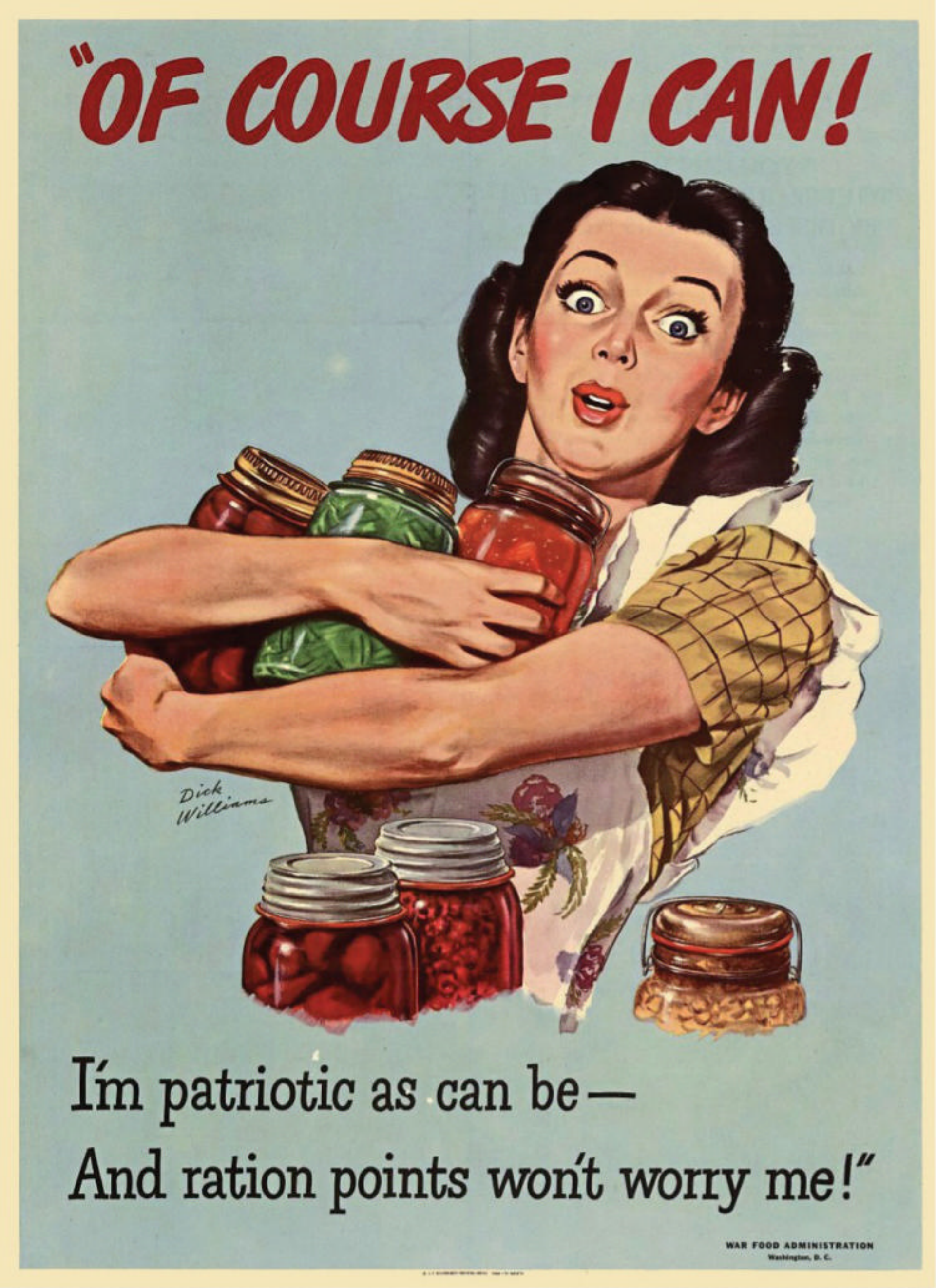
**With purchase of a new Safe Step Walk-In Tub. Not applicable with any previous walk-in tub purchase. Offer available while supplies last. No cash value. Must present offer at time of purchase. Cannot be combined with any other offer. Market restrictions may apply. Offer available in select markets only.* CSLB 1082165 NSCB 0082999 0083445 13VH11096000

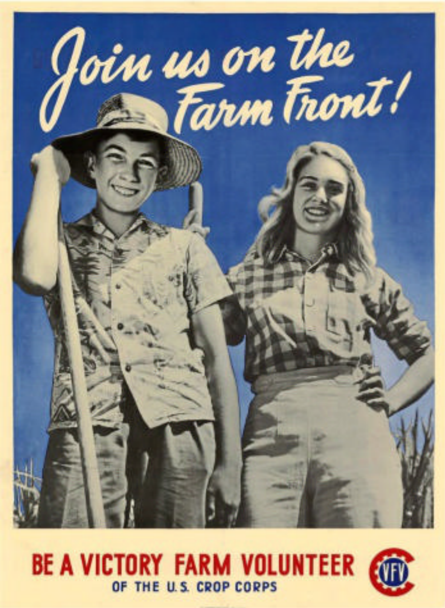

GROW YOUR OWN
Be sure!
GARDEN
IN 1945
FOR
VICTORY
GROVE
STRON

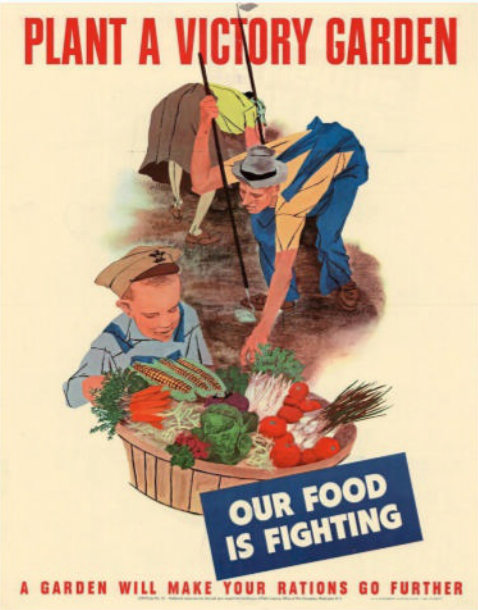
THE ART OF THE VICTORY GARDEN

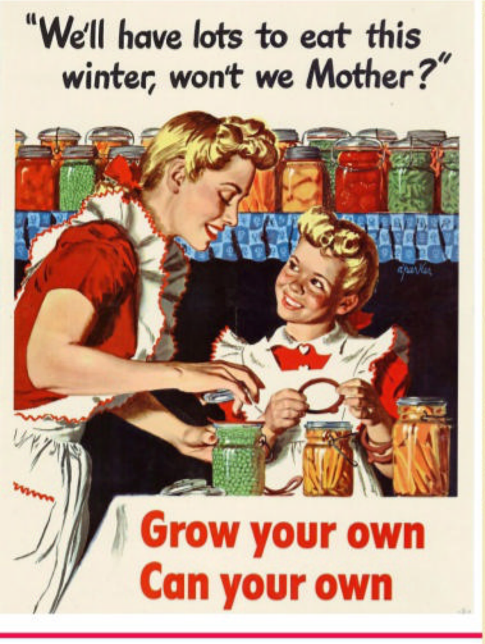
Getting our hands dirty by growing some of our own fresh produce has been in vogue the last few years. But we don't hold a candle to the Americans who turned gardening and canning into patriotic acts during WWII as part of the home front effort to reserve food supplies for overseas troops. For those who needed a nudge to put their green thumbs to work, the War Food Administration, the USDA and other government agencies distributed dozens of motivational posters. Even 80 years later, these posters stand as a stirring mix of propaganda and public art. They can make you hungry, too.

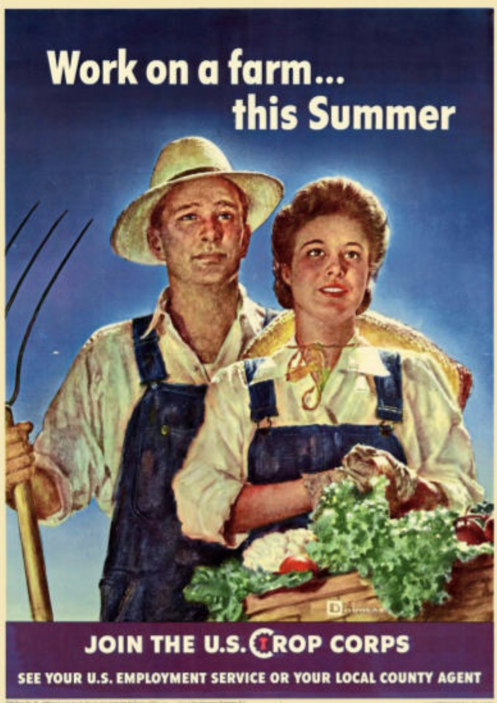

Be a VICTORY FARM VOLUNTEER
IN THE U.S. CROP CORPS
SEE YOUR PRINCIPAL

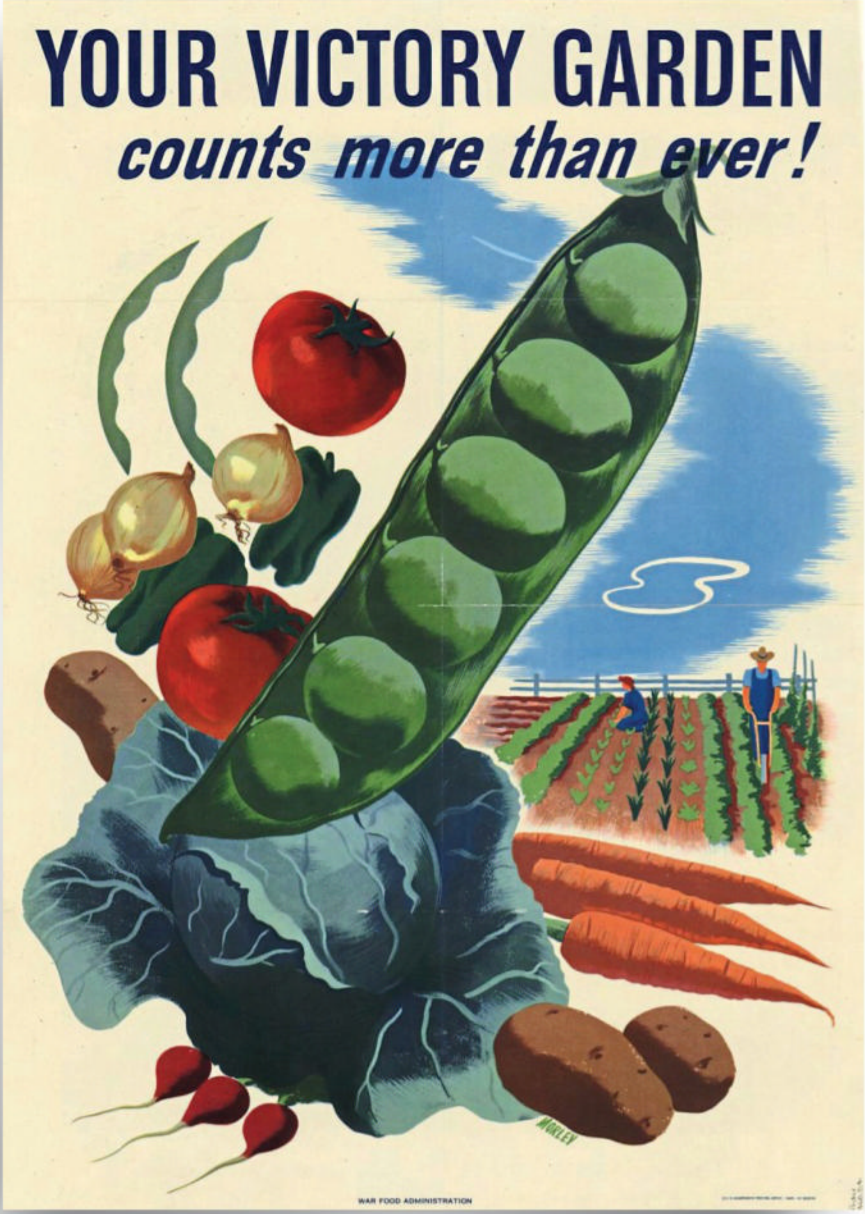

"OF COURSE I CAN!
Dick Williams
I'm patriotic as can be—
And ration points won't worry me!"
WAR FOOD ADMINISTRATION
Washington, D. C.


Join us on the Farm Front!
BE A VICTORY FARM VOLUNTEER
OF THE U.S. CROP CORPS
VFV


PLANT A VICTORY GARDEN
OUR FOOD IS FIGHTING
A GARDEN WILL MAKE YOUR RATIONS GO FURTHER


"We'll have lots to eat this winter, won't we Mother?"
Grow your own
Can your own


Work on a farm... this Summer
JOIN THE U.S. CROP CORPS
SEE YOUR U.S. EMPLOYMENT SERVICE OR YOUR LOCAL COUNTY AGENT


YOUR VICTORY GARDEN
counts more than ever!
MORLEY
WAR FOOD ADMINISTRATION

OVER 1.5 MILLION SOLD

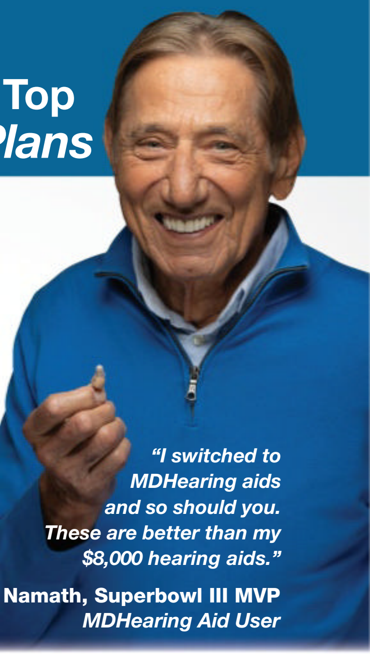
MDHearing is Now Available Through Top *Medicare Advantage Plans*

RECHARGEABLE *In-Your-Ear* *Hearing Aid*

NEW LOW PRICE 70% OFF

~~REG $999.98~~ AS LOW AS $297 For a Pair

PLUS FREE SHIPPING *Limited Time Only!*



"I switched to MDHearing aids and so should you. These are better than my $8,000 hearing aids."

Joe Namath, Superbowl III MVP
MDHearing Aid User

How can a rechargeable hearing aid that fits inside your ear and costs as low as $297 a pair be every bit as good as those that sell for $4,800 or more?

The answer: Although tremendous strides have been made in Hearing Aid Technology, those cost reductions have not been passed on to you. Until now... **MDHearing™** uses the same kind of technology incorporated into hearing aids that cost thousands more at a small fraction of the price.

Choose From Our ***Smallest NEO XS*** or the ***Best-Selling NEO***
Both are medical-grade, rechargeable hearing aids offering sophistication and high performance.

MDHearing™ NEO XS

NEW! Our smallest hearing aid ever!

At 50% smaller than our previous model, the NEO XS measures only 15mm long and is virtually invisible. And, at only $397 for a pair, you won't find a better hearing aid.

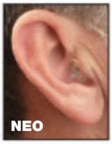
NEO XS

$397 for a pair

Actual size

or

MDHearing™ NEO



NEO

$297 for a pair

Our best-selling hearing aid!

At only 20mm long, the NEO is virtually invisible in your ear. And, at only $297 for a pair of hearing aids, this is our best-selling hearing aid.

Sits discreetly inside your ear canal without anyone knowing

Both products are proudly designed in America and supported by US audiologists

45-DAY RISK-FREE TRIAL!
If you are not completely satisfied with your hearing aids, return them within 45 days for a FULL REFUND!

For the Lowest Price Call
1-800-567-6619
www.JoeLovesMD.com

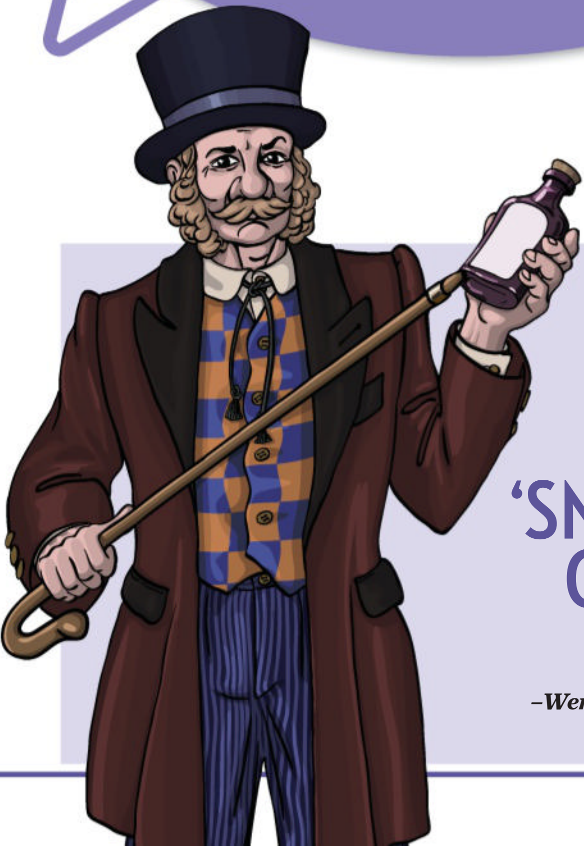
MDHearing™
DOCTOR DESIGNED | AUDIOLOGIST TESTED | FDA REGISTERED

Carrying cases are also the chargers

Use Code TK36 and get FREE Shipping

Over 7,000 5-STAR ★★★★★ Google Reviews

YOU ASKED,



WHY WAS 'SNAKE OIL' CALLED THAT?

–Wendy G., San Jose, Calif.

WE ANSWER

REPLIES TO BURNING QUESTIONS YOU DIDN'T EVEN KNOW YOU HAD—UNTIL NOW.

Great question. First off, let's agree that the term "snake oil" in contemporary usage describes a scam, often involving deceptive marketing, and especially applies to fraudulent or ineffective health treatments. Now let's acknowledge that actual oil extracted from water snakes, high in omega-3 fatty acids, has been used for centuries in Chinese traditional medicine to treat joint pain. By the 18th century, this notion had caught on in Europe, except unscrupulous "entrepreneurs" there seldom bothered to put any snake oil in the patent medicines they bottled and sold direct to the public. Such scammery spread to America by the mid-1800s, and though it's commonly associated with the Old West, was widespread in the East, too. Hucksters aligned their "medicines" with Native American culture and claimed they contained exotic ingredients such as baobab fruit and swamp root that would cure everything from ailing livers to venereal disease. Instead, most formulations were plain old mineral oil spiked with household herbs and spices to lend a medicinal zing. Promoters who trundled the stuff from town to town sometimes employed accomplices who mixed into the crowd and asserted that the "tonics" had miraculously raised them from their deathbeds. Yes, people fell for this quackery by the droves until the whole dirty biz declined after the passage of the Pure Food and Drug Act in 1906.

RAGGED BRANCH DISTILLERY

HOW MUCH CORN DOES IT TAKE TO MAKE BOURBON?

–David T., Bluffton, Ind.

We're picturing you with a sack of fresh sweet corn, earnestly pondering whether to shuck and boil it right now for supper or instead distill and age it in the shed for a few years to pour a nightcap. OK, corn-into-bourbon arithmetic is a bit rough, because ears of corn vary in size and though bourbon's mashbill must contain 51 percent corn (by law!), it commonly ranges 10 to 25 percent higher. But let's give it a stiff shot. Starting with a wide lens, Kentucky distilleries alone require a whopping 20 million bushels of corn or so to meet annual demand. For a closer look, we raise a glass to Tom Casey of Ragged Branch Distillery, a Charlottesville, Va., craft distillery that grows all its own grains. "If you take our flagship 90 proof Signature Bourbon as an example," Casey says, "about 650 pounds of corn kernels go into a 500-gallon batch of mash that yields a single 53-gallon barrel of whiskey that fills 300 bottles after it ages for five years. So that's a little over two pounds of corn per bottle." That lines up with the input-output of another ground-to-glass operation, Frey Ranch

Distillery of Fallon, Nev., where “whiskey farmer” Colby Frey calculates that a bottle converts a little upwards of three pounds of grains including corn, rye, wheat and barley. He’s even computed that it takes about 15 square feet of his fields to grow those grains. Ironically, this level of arithmetic is much more difficult after a couple of old-fashioneds.

WHERE DOES CHARCOAL COME FROM?

–Robert S., Parma, Ohio

We get it—our minds also tend to wander when we’re standing over a grill waiting to flip the burgers. While doing so, you’re a part of an ancient tradition that began with villagers who lived in isolation to tend low-oxygen fires that transformed wood to black carbon residue by removing all moisture. And did you know that Henry Ford used scrap wood left over from the production of Model Ts to make charcoal briquettes at a factory designed by Thomas Edison? Ford Charcoal eventually became Kingsford, which now accounts for 80 percent of charcoal sales. Oh, but you asked how the stuff is made. (Yes, the mind does wander.) Today’s common charcoal briquettes are still fashioned from sawmill scrap that is finely ground, run through a multiple-stage furnace in low oxygen, combined with sawdust and binding agents such as limestone and starch, then pressed into the familiar pillow shape. We’d go on to tell you fun stuff about specialty Japanese charcoals—but pay attention, those burgers are burning!

WHAT HAPPENED TO COUNTY FAIRS?

–Karen W., Kenosha, Wisc.

Why, did you misplace one? Big state fairs like the annual events in Texas and Minnesota garner plenty of fanfare. Heck, you can't make it through August without spotting national media reporting on the Iowa State Fair's giant butter sculpture and whatever snack food on a stick is being inadvisably deep fried. A rung below, the status of county fairs is mixed. For more than a century, these local events were a must-do on community calendars, typically organized after the intense heat of summer and before harvest season made leisure time unthinkable. But the last couple of decades have seen a wave of closures due to multiple factors. At some fairs, changes in demographics and entertainment preferences led to declining attendance, while at others, vital sponsors moved their marketing dollars to digital platforms. Real estate deals left fairs homeless and unable to secure new land. And some longtime attendees have complained of rising ticket and food prices. Counterintuitively, however, a dip in the economy has benefitted attendance at some fairs. After all, even if cotton candy costs 50 cents more, taking the family to the fair is still *waaaayyyy* more affordable than traveling to Disney World. (Plus, the Magic Kingdom doesn't feature a demolition derby.) Don't have a fair in your county? Don't worry, the one a county over would love to have you board its Ferris wheel.

Paid Advertisement

"I never had pain-free feet – UNTIL NOW!"

Circulation-Boosting 'Miracle Socks' for Diabetes And Foot Pain Sufferers!

Breakthrough design improves blood flow, swelling, boost oxygen flow, and eliminate foot fatigue –naturally in as little as 5 minutes!

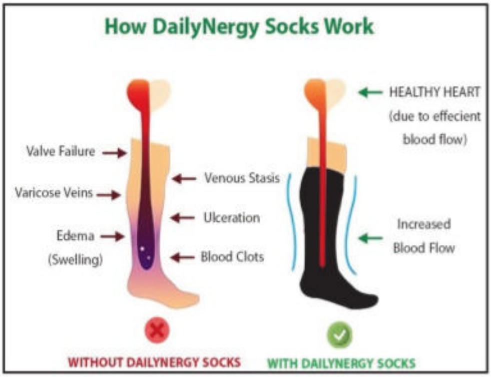
Good news comes in the form of a pain-reducing, circulation-boosting sock design from DailyNergy.

Better Blood Flow!

This 'miracle sock' is made from proprietary blend of nylon and poly materials, which are optimally constructed to make a DailyNergy sock.

DailyNergy socks feature graduated pressure which exerts the greatest degree of pressure at the ankle, and the level of pressure gradually decreases up the socks. This forces the blood to move upwards, where there is more space.

Available in black or white –These socks are knee-high socks that end above the calf. Our socks come with a 30 day money back guarantee.


How DailyNergy Socks Work
Valve Failure
Varicose Veins
Edema (Swelling)
Venous Stasis
Ulceration
Blood Clots
HEALTHY HEART (due to effecient blood flow)
Increased Blood Flow
WITHOUT DAILYNERGY SOCKS
WITH DAILYNERGY SOCKS

SOCK SIZE	SHOE SIZE
S	5-7
M	6.5-8.5
L	8-10
XL	9.5-12
2XL	+12

Only $24.95 per pair or get 3 pair for $74.85 and get a 4th pair free!

FREE SHIPPING!

Call 855-287-1800 OR go to DailyNergy.com OR checks/money orders send payment to: MWSB Inc., 834 South Union Street, Olean, New York 14760-3917. FREE SHIPPING!

Looking for weather info for a property/crop insurance claim?

WEATHERTIGER
weathertiger.substack.com

Our forensic meteorology expert witness service is here for **you**!

» Hundreds of cases of experience

» Trusted analysis from a weather PhD

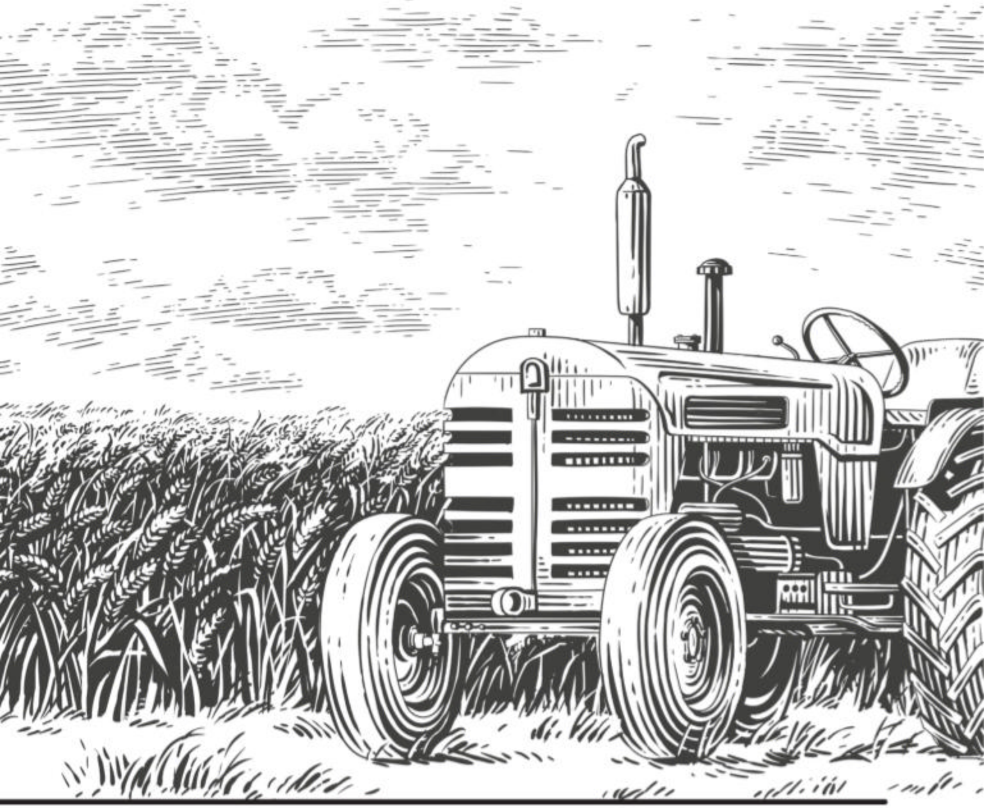
» 1-on-1 attention to your unique case

» Fast service and reasonable rates

Scan to find out how to put our expertise to work on your case!

garden & farm

for people who love the land



YARD-LONG BEANS

WHEN IT COMES TO GROWING DELICIOUS BEANS IN YOUR GARDEN, WHY NOT GO LONG?

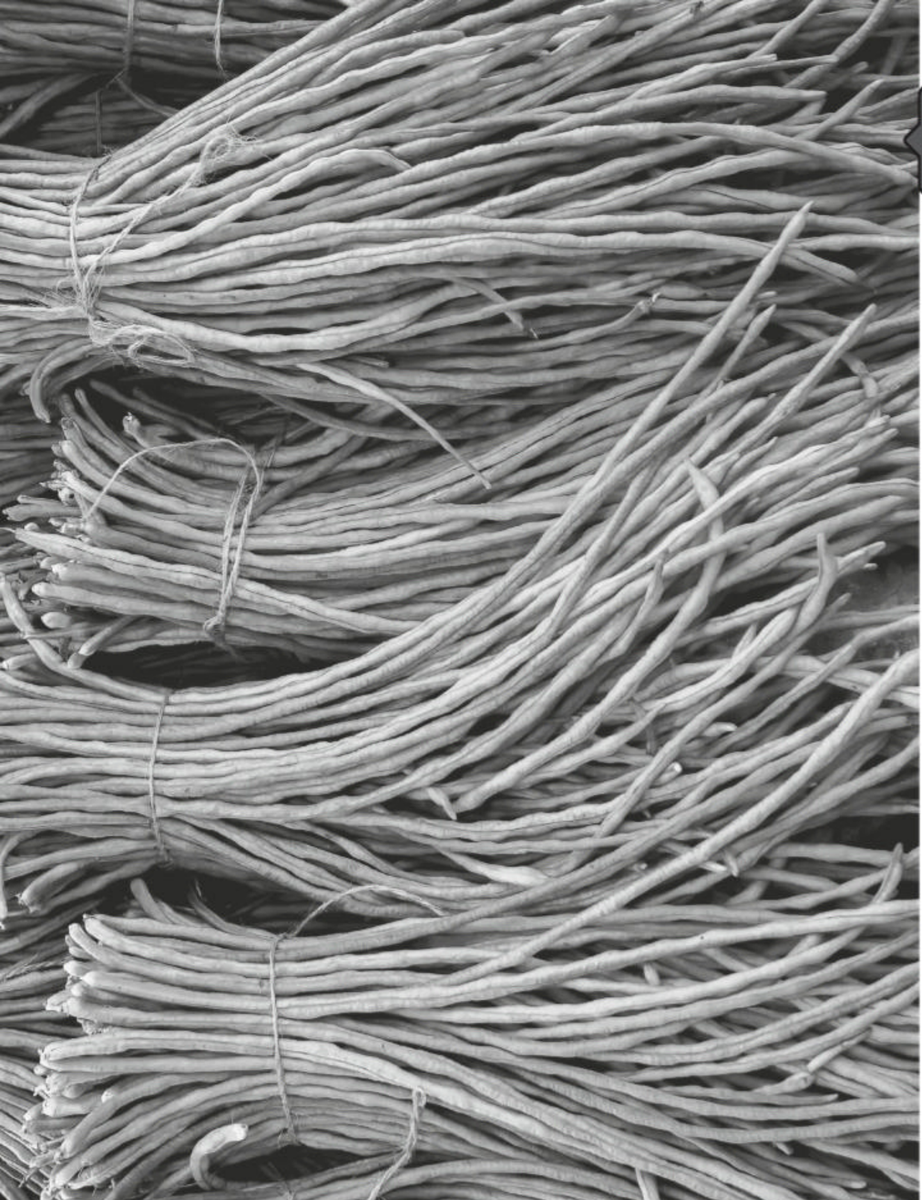
We know a gardener who devotes one row of his veggie patch each spring to a new-to-him seed, and the first year he grew yard-long beans also was the first time he learned that his county fair has a longest-bean contest. When he strolled into the food tent clutching the dangling result of his labors, the shocked judge considered the traditional, perfectly respectable green beans already entered, concluded that no rule had been violated, and surrendered a blue ribbon.

FIRST
PLACE

To be clear, yard-long beans aren't a yard long, but they easily hit impressive lengths of 18 to 20 inches. Native to South Asia, they're called *dow gauk* in China and *sasage* in Japan. Some catalogs label them snake beans or asparagus beans. As our blue-ribbon winner found out, they're surprisingly easy to grow, especially in warmer zones. Space seeds every six inches along a trellis and steer emerging vines to the support if needed. Young vines can look spindly and grow slowly, but once the real heat of summer hits, they take off, producing dense foliage as they climb to heights upwards of eight feet. When pretty pink blooms emerge, you'll soon have beans. Most varieties produce pairs of beans that can grow inches overnight. They're best harvested at 12 to 18 inches, when pods are about the thickness of a pencil and before the seeds turn lumpy and the pods leathery. The vines produce heavily—one picking off an eight-foot trellis can fill a grocery sack.

Luckily, yard-long beans are so delicious, with a sweet flavor a bit nuttier than green beans, that you may crave them daily. Start by sautéing a few in sesame oil, then experiment with adding garlic and red-pepper flakes, or ginger and a squeeze of lemon, or by finishing them with soy sauce. In some countries, they're a common component in stir fries and curries. Nutrients? They're a good source of protein, vitamins A and C, thiamine, riboflavin, iron, potassium, folate, magnesium and manganese.

If you want a bean as colorful as it is long, try the red noodle variety, which produces burgundy-hued pods. Our adventurous gardener friend now sometimes plants different varieties along the same trellis, though he's given up stealing blue ribbons from the growers of more modest beans.



A BEAUTIFUL BLOOMING MENACE

BRADFORD PEAR TREES ARE A PRETTY HARBINGER OF SPRING—AND AN INVASIVE THREAT TO NATIVE PLANTS.

The Callery pear tree (*Pyrus calleryana*), more commonly known as Bradford pear, has become a notable presence in urban and suburban landscapes across the United States. Originally native to China and Taiwan, this ornamental tree was introduced here in the early 20th century for its obvious aesthetic appeal—it's one of the first trees to blossom in late winter or early spring, brightening dreary landscapes with abundant clusters of green-stemmed white blossoms.

But Bradford pears have a darker side that has received more attention in recent years. While initially praised for ornamental value and adaptability, the tree has proven to be highly invasive. Its ability to thrive in a variety of soil types and climate conditions, combined with its rapid growth, has allowed it to spread aggressively. In many regions, it has outcompeted native species, disrupting local ecosystems and reducing biodiversity. The Virginia Department of Forestry has gone as far as calling Bradford pears "one of the worst invasive plant species in the entire Southeast."

Bradford pear's invasiveness is partly due to its reproductive strategy. It produces an abundance of small, hard fruits eaten by birds and subsequently dispersed over large areas. (In case you're wondering, these aren't the kind of fruit pears we eat, given their rank, fishy odor.) This has led to dense thickets of Bradford pears that can dominate landscapes and crowd out native plants. Moreover, the tree's broad canopy and weak branches make it especially prone to storm damage, which sort of defeats the intended purpose of an ornamental tree, anyway.

Now that these negative traits are better recognized, efforts are underway to manage the spread of Bradford pear trees. Many regions are implementing cuttings, herbicide application and other control measures. Nurseries and landscapers are being encouraged to discontinue the tree's use. Some municipalities are even sponsoring programs in which residents are given alternative, more ecologically friendly plantings to replace every Bradford pear removed from their properties.

ALTERNATIVES TO BRADFORD PEAR*

Downy Serviceberry
Eastern Redbud
Fringetree
Flowering Dogwood
Cockspur Hawthorn
Silverbell
Sweet Crabapple
American Wild Plum

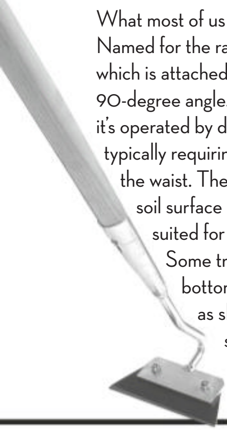
**Confirm compatibility to your region*

BEST IN HOE

THIS ESSENTIAL GARDEN TOOL HAS A SURPRISING VARIETY OF DESIGNS. WEED OUT WHICH MOST SUITS YOUR CHORE IN OUR HOE THROWDOWN.

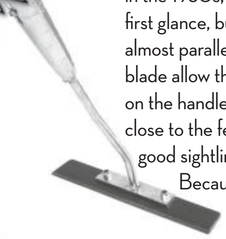
Even though this guide omits heavier-duty digging implements to focus on hoes intended primarily for weeding, differences in design are striking. Those adaptations flow from how they're intended to be handled, and the results they gain. Adding two or three to your long-handle arsenal equips you for the never-ending battle.

TRAPEZOID HOE



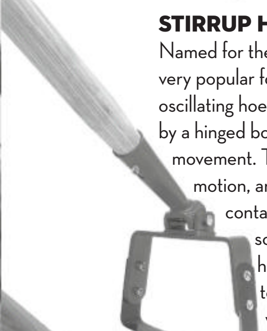
What most of us picture when we think of a hoe. Named for the rather obvious shape of the blade, which is attached to the handle at a 60- to 90-degree angle. It's a type of draw hoe, meaning it's operated by drawing, or pulling, it toward you, typically requiring the user to bend forward at the waist. The blade scrapes at or below the soil surface to slice or uproot weeds. It's best suited for small- to medium-size weeds. Some trapezoid blades have rounded bottom corners, but pointed corners, as shown, are useful for tackling stubborn roots. A sturdy trapezoid hoe can manage light garden digging when needed.

CHOOSE YOUR WEAPON!



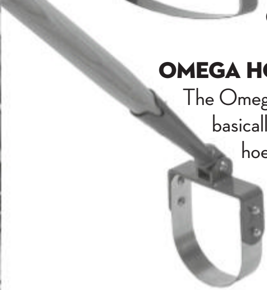
COLLINEAR HOE

Developed by farmer and agricultural educator Eliot Coleman in the 1980s, a collinear hoe looks much like a trapezoid hoe at first glance, but the blade is attached at an angle that puts it almost parallel to the ground. This ergonomic shape and thin blade allow the user to stand straight, keeping a thumbs-up grip on the handle while sweeping the blade along the soil surface close to the feet. Control is therefore more precise, and allows good sightlines when trying to weed close around crops. Because the blade doesn't dig below the surface, it's best suited for smaller, less robust weeds.



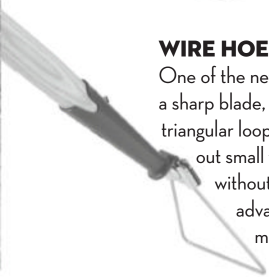
STIRRUP HOE

Named for the shape of the head, stirrup hoes have become very popular for their utility and effectiveness. It's a type of oscillating hoe, meaning that the head is attached to the handle by a hinged bolt that allows the head a bit of horizontal movement. This lets the user operate the hoe in a scrubbing motion, and the portion of the double-sided blade that contacts the ground to cut in both directions. In looser soil, the head digs below the surface, while on harder-packed soil, it tends to scrape along the top, depending on how much muscle the user want to apply while bent forward at the waist. Great for weeding a lot of space quickly.



OMEGA HOE

The Omega, as it's dubbed by Johnny's Selected Seeds, is basically a hybrid of an oscillating hoe and a circle-blade hoe. The hinged-head bolt provides the same push-pull cutting action of a larger stirrup hoe, while the narrower, more ring-shaped blade lets the user target weeds in tighter areas and work closer to crops. The trade-off is that it's a longer chore to weed larger spaces.



WIRE HOE

One of the newer designs in the hoe army's arsenal. Instead of a sharp blade, the head is made entirely of thick wire in a triangular loop, and intended for use only in loose soils to pull out small weeds at the root level below the surface without causing much disturbance. A wire hoe's best advantage is that it's much safer to use around plastic mulch, drip tape and other irrigation features that can easily be nicked by other hoes.

Photos courtesy Johnny's Selected Seeds (johnnyseeds.com)

A 'SHOCKING' WAY TO GROW PEANUTS

WHY ONE VIRGINIA FARMER STILL FOLLOWS THE BYGONE PRACTICE—AND HOW YOU CAN SNACK ON HIS HARVEST.

Ever heard of a "single-origin" peanut? It's a term more commonly associated with coffee- and chocolate-bar imports that can be ethically traced back to a specific grower. But it certainly applies to the limited-release Hubs-brand peanuts cultivated by one farmer, Elisha Barnes, on a single, 10-acre patch in southeastern Virginia.

They're likely the rarest commercially marketed peanuts on the planet. Barnes' most recent harvest yielded 8,000 pounds, enough to fill just 6,400 specially marked cans—less than 1 percent of total annual sales for Hubs, a peanut company based in Sedley, Va.

"Before this, I was feeding my peanuts to my hogs and the deer. Now I'm blessed to have them known by people in all parts of the world, and that's a great thing for a little country farmer," Barnes says. "I'm a fourth-generation farmer—if my father could see this, he'd be grinning like a possum eating persimmons."

Ironically, Hubs executive Marshall Rabil once weighed the logistics of working with a farmer in Uganda to market a single-origin peanut, but couldn't work out all the kinks until Barnes, who farms just 20 miles away, walked into the company's office in 2020. Barnes was having trouble finding a buyer because, although the region's sandy loam soil has long been known for peanut production, most farmers operate on a much larger scale.

Rabil was intrigued that Barnes is the only farmer still known to "shock" peanuts, an old-fashioned harvesting method abandoned decades ago and nearly forgotten. In it, clusters of mature peanut pods are dug from the soil with long, stringy vines still attached, but instead of drying (called "curing") for just a few days, they're gathered with pitchforks and piled head-high onto pointy, wood poles to sun-cure in the field for a full six weeks. The resulting mounds resemble upright sheaves, or "shocks" of stacked wheat, hence the term. To protect the peanuts from rain during that period, Barnes takes care to twirl the vines around the poles so that clusters are positioned toward the center and moisture drains to the outside.

Why do all this? Barnes believes that extra open-air curing concentrates sugars and creates a slightly sweeter peanut. He also admits to being stubborn about wanting to continue something he believes is worth preserving. "This is how I was raised," he says. "This is the fabric of my life."

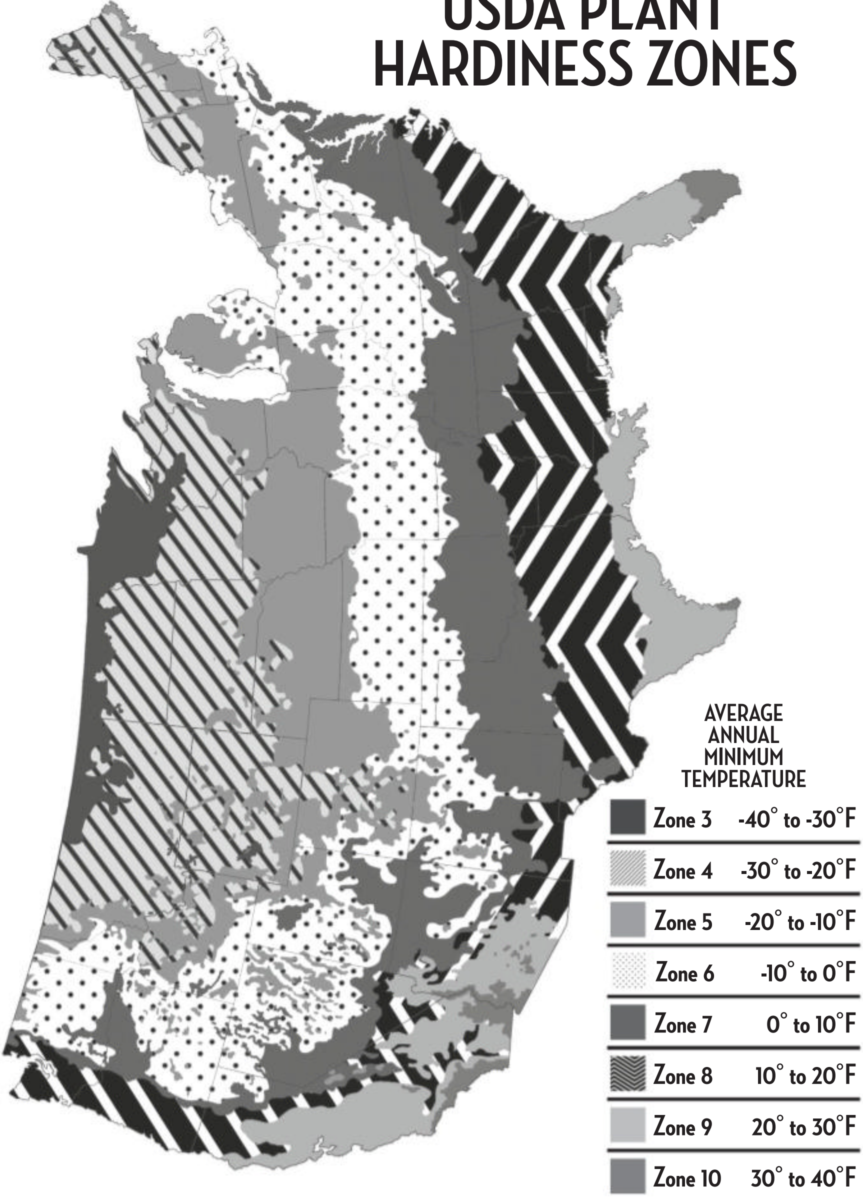
The limited release currently available adds yet another attribute. After three years of growing for Hubs on his own farm, Barnes moved the latest crop to a piece of land leased by the Foodbank of Southeastern Virginia and Eastern Shore. He plants half of those 20 acres in corn that goes directly to the food bank, the other half in peanuts he sells to Hubs. In turn, Hubs donates proceeds from sales back to the food bank, enough to fund two meals for every can sold. 🚜

GOOD NEIGHBORS, BAD NEIGHBORS

Companion planting is a method of planting different crops next to each other to achieve several benefits, including pollination, pest control and increased production. There also are planting pairings to avoid because they inhibit growth or attract the same pests or blights. Below is a quick guide to the garden buddy system.

PLANT	TOGETHER	APART
BEANS	beets, broccoli, carrots, cauliflower, chard, corn, cucumber, peas, rosemary, strawberry, tomatoes, thyme	chives, leeks, onion, marigolds, peppers
BROCCOLI	beets, onions, potatoes	peppers, pole beans, tomatoes
CABBAGE	beans, marigolds	tomatoes
CARROTS	chives, legumes, onions	celery, parsley
CORN	beans, cucumber, dill, melon, parsley, peas, sage, squash, thyme	cabbage, tomatoes
CUCUMBER	beans, cabbage, corn, dill, lettuce, onions, peas, peppers, tomatoes	melon, potatoes, sage
EGGPLANT	beans, marigolds, tomatoes, peppers, spinach	none
MELON	corn, marigolds, squash	none
PEPPERS	basil, carrots, chard, cucumber, onions, oregano, parsley, peas, rosemary, squash, tomatoes	beans, broccoli, cauliflower
SQUASH	corn, lettuce, marigolds, melons, peas, peppers	broccoli, cauliflower
SWEET POTATO	beans, beets, dill, oregano, parsnip, potatoes, thyme	squash
TOMATO	basil, beans, carrots, chives, cucumber, lettuce, marigolds, onions, oregano, parsley, peppers, sage, thyme	beans, broccoli, cauliflower, dill

USDA PLANT HARDINESS ZONES


AVERAGE ANNUAL MINIMUM TEMPERATURE
Zone 3 -40° to -30°F
Zone 4 -30° to -20°F
Zone 5 -20° to -10°F
Zone 6 -10° to 0°F
Zone 7 0° to 10°F
Zone 8 10° to 20°F
Zone 9 20° to 30°F
Zone 10 30° to 40°F

GROW IN THE ZONE

What and when to plant in your spring/summer garden? That depends a lot on where you live.

	Zone							Germination Soil Temp	Days to Maturity
	3	4	5	6	7	8	9		
BEANS	5/15	5/15	5/10	5/10	4/1	4/1	3/1	60-85°F	50-60
BEETS	4/15	4/15	4/1	4/1	2/15	2/15	-	50-75°F	55-65
BROCCOLI*	3/1	3/1	2/15	2/15	1/1	1/1	-	55-75°F	60-80
CABBAGE*	2/15	2/15	2/15	2/15	12/1	12/1	-	55-75°F	65-80
CARROTS	4/15	4/15	3/25	3/25	1/15	1/15	-	45-85°F	70-80
CUCUMBERS*	4/1	4/1	4/1	4/1	3/1	3/1	2/1	65-90°F	60-85
EGGPLANT*	4/1	4/1	3/15	3/15	2/1	2/1	12/1	75-90°F	70-90
LETTUCE*	3/15	3/15	4/1	4/1	12/15	12/15	-	40-80°F	45-85
MUSKMELONS	4/15	4/15	4/10	4/10	2/25	2/25	1/1	70-85°F	80-90
OKRA*	4/1	4/1	3/10	3/10	2/1	2/1	1/1	70-90°F	55-60
PEAS	4/10	4/10	3/25	3/25	1/15	1/15	-	55-75°F	60-80
PEPPERS*	3/15	3/15	3/1	3/1	1/15	1/15	-	70-90°F	65-80
PUMPKINS	5/15	5/15	5/15	5/15	4/1	4/1	3/1	65-85°F	85-90
RADISH	4/10	4/10	3/25	3/25	1/15	1/15	-	45-80°F	25-30
SPINACH	4/15	4/15	4/1	4/1	1/15	1/15	-	45-75°F	40-45
SUMMER SQUASH*	4/10	4/10	4/15	4/15	3/1	3/1	2/1	65-85°F	50-55
WINTER SQUASH	4/10	4/10	4/15	4/15	3/1	3/1	2/1	65-85°F	85-90
TOMATOES*	3/15	3/15	3/15	3/15	1/25	1/25	12/1	70-90°F	70-85
WATERMELONS*	4/15	4/15	4/10	4/10	2/20	2/20	2/1	70-85°F	80-90

FROST DATES AND GROWING SEASONS

When is it safe to plant frost-sensitive crops and gardens? A general rule is to wait two to three weeks after the normal date of last spring frost, then check the weather forecast. If no extreme cold is predicted for the next 10 days, you're unlikely to have another night with a low temperature below 32°F. The following table lists the median dates of final spring frost and first fall frosts over the past 30 years, 1994 to 2023. That means half of years have frosts earlier than the listed date, and half later. The listed growing season length is the median number of days between the first and last frost. Data provided by the Midwestern Regional Climate Center.

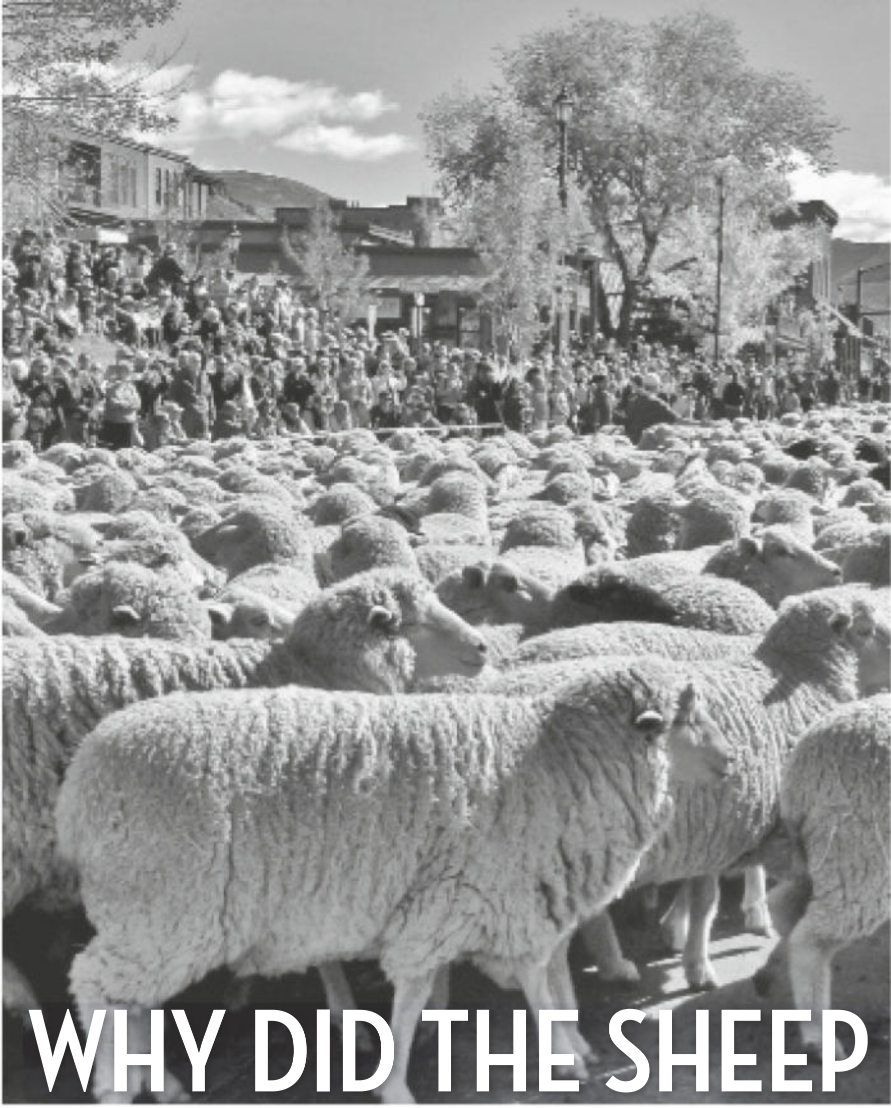
STATE	CITY	SPRING FROST DATE	FALL FROST DATE	GROWING SEASON LENGTH
ALABAMA	Birmingham	March 25	November 12	230
ARIZONA	Tucson	February 14	December 4	290
ARKANSAS	Little Rock	March 13	November 15	244
CALIFORNIA	Redding	March 4	November 22	250
CALIFORNIA	Sacramento	February 19	November 25	277
COLORADO	Denver	May 10	October 5	150
CONNECTICUT	Hartford	April 20	October 17	177
FLORIDA	Jacksonville	February 28	November 28	278
FLORIDA	Orlando	January 16	December 31	348
GEORGIA	Atlanta	March 14	November 16	244
IDAHO	Boise	May 1	October 19	173
ILLINOIS	Chicago	April 20	October 24	184
ILLINOIS	Springfield	April 14	October 14	183
INDIANA	Indianapolis	April 15	October 22	187
IOWA	Des Moines	April 17	October 19	180
KANSAS	Wichita	April 12	October 26	196
KENTUCKY	Lexington	April 12	October 26	192
LOUISIANA	New Orleans	December 20	January 24	330
MAINE	Augusta	March 25	November 4	224
MARYLAND	Baltimore	April 6	November 1	204
MASSACHUSETTS	Boston	April 2	November 9	220
MICHIGAN	Detroit	April 21	October 27	186
MINNESOTA	Duluth	May 13	October 2	140
MINNESOTA	Minneapolis	April 23	October 16	174
MISSISSIPPI	Jackson	March 11	November 13	245
MISSOURI	Kansas City	April 12	October 25	225
MISSOURI	St. Louis	April 1	November 1	211
MONTANA	Billings	May 5	October 8	155
NEBRASKA	Omaha	April 20	October 17	177
NEVADA	Las Vegas	February 2	December 7	294
NEW HAMPSHIRE	Concord	May 12	October 1	138
NEW JERSEY	Newark	March 30	November 9	223
NEW MEXICO	Albuquerque	April 5	November 4	207
NEW YORK	Buffalo	April 24	October 29	187
NEW YORK	Albany	April 29	October 15	163
NORTH CAROLINA	Charlotte	April 1	November 2	210
NORTH DAKOTA	Fargo	May 11	October 6	144
OHIO	Cleveland	April 25	October 31	189
OHIO	Columbus	April 18	October 26	188
OKLAHOMA	Oklahoma City	April 2	November 4	222
OREGON	Portland	March 18	November 11	242
PENNSYLVANIA	Philadelphia	March 30	November 11	224
PENNSYLVANIA	Pittsburgh	April 26	October 23	180
SOUTH CAROLINA	Charleston	March 6	November 25	270
SOUTH DAKOTA	Sioux Falls	May 1	October 3	153
TENNESSEE	Memphis	March 11	November 15	244
TENNESSEE	Nashville	March 27	November 2	219
TEXAS	Dallas	March 7	November 26	263
TEXAS	Houston	January 23	December 2	310
TEXAS	Lubbock	April 7	October 30	210
TEXAS	San Antonio	February 27	December 1	276
UTAH	Salt Lake City	April 12	October 25	194
VERMONT	Burlington	May 2	October 11	160
VIRGINIA	Richmond	April 2	November 4	216
VIRGINIA	Norfolk	March 17	November 20	250
WASHINGTON	Seattle	March 9	November 12	247
WASHINGTON	Spokane	April 26	October 12	166
WEST VIRGINIA	Charleston	April 18	October 23	185
WISCONSIN	Green Bay	May 3	October 11	155
WISCONSIN	Madison	May 3	October 7	158
WYOMING	Casper	May 23	September 20	119

Phoenix, Miami, San Francisco, Los Angeles and San Diego are major metropolitan areas that experience only rare or occasional low temperatures near 32F.

ROOM TO GROW

JUST LIKE PEOPLE, SOME PLANTS NEED MORE SPACE THAN OTHERS. HERE'S A HANDY CHART FOR PUTTING SEEDS AND TRANSPLANTS INTO THE SOIL, AND MAKING THE MOST OF YOUR GARDENING SPACE. IF YOU HAVE LIMITED ROOM, TRY THE SHORTER DISTANCES BETWEEN PLANTS AND ROWS.

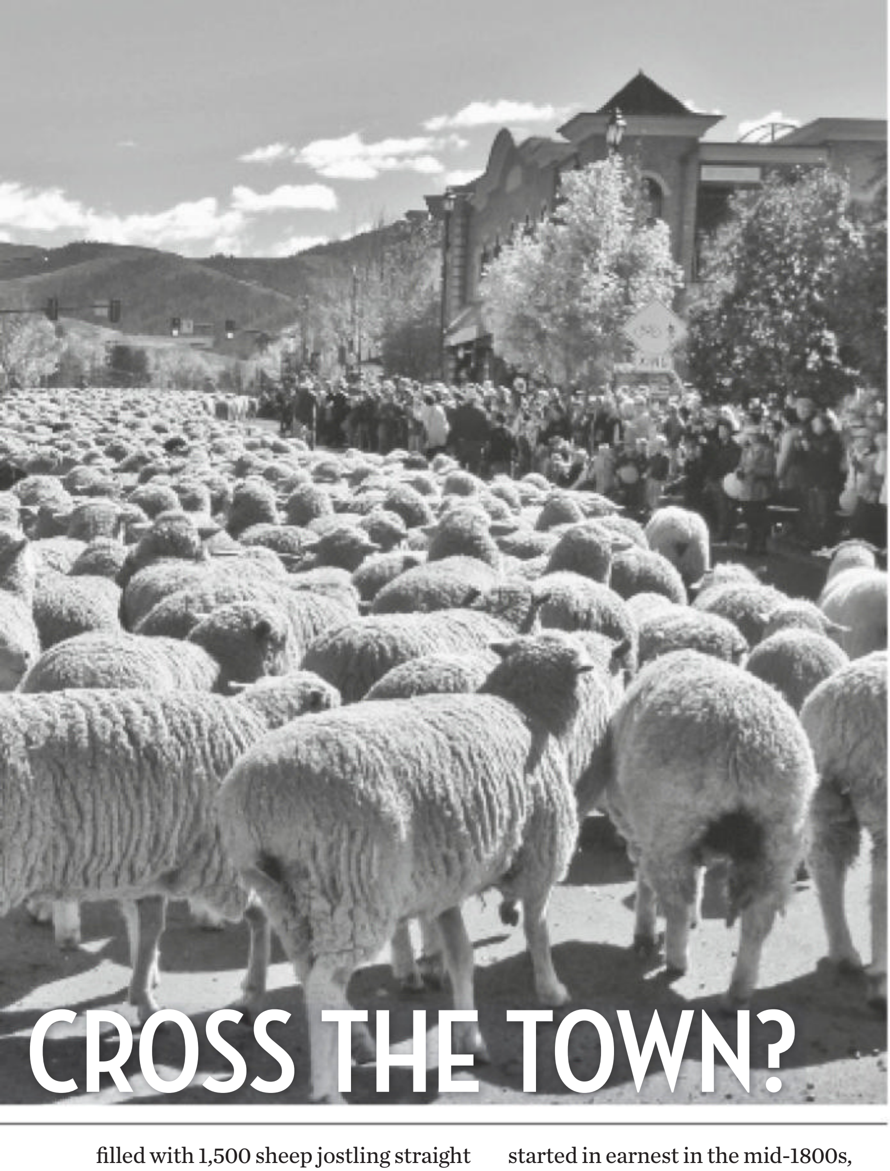
PLANT	DISTANCE BETWEEN PLANTS IN ROWS	DISTANCE BETWEEN ROWS	YIELD PER 10' ROW
ASPARAGUS	12-18"	36-48"	3-4 lbs.
BUSH BEANS	1-3"	24-36"	3-5 lbs.
POLE BEANS	4-12"	36-48"	6-10 lbs.
LIMA BEANS	3-6"	24-36"	4-6 lbs.
BEETS	2-3"	12-18"	8-10 lbs.
BROCCOLI	12-24"	18-36"	4-6 lbs.
CABBAGE	12-18"	18-36"	10-25 lbs.
CARROTS	2"	6-12"	7-10 lbs.
CAULIFLOWER	12-24"	24-36"	8-10 lbs.
COWPEAS	3-4"	24-36"	5-18 lbs.
CUCUMBERS	12-18"	48-72"	8-10 lbs.
EGGPLANT	18-24"	48-72"	10-12 lbs.
GARDEN PEAS	2-3"	12-30"	2-6 lbs.
KALE	12-24"	18-36"	4-8 lbs.
LETTUCE	6-10"	10-18"	2-4 lbs.
MUSKMELONS	2-4'	5-7'	15-25 lbs.
OKRA	12-18"	36-48"	5-10 lbs.
ONION BULBS	2-4"	12-18"	7-10 lbs.
PEPPERS	12-24"	30-36"	5-15 lbs.
POTATOES	10-18"	24-42"	10-20 lbs.
PUMPKINS	2-4'	5-8'	10-20 lbs.
RADISH	1"	6-12"	3-5 lbs.
SWEET CORN	6-12"	24-36"	7-10 lbs.
SPINACH	1", thin to 4"	6-12"	4-6 lbs.
SUMMER SQUASH	18-36"	36-60"	25-50 lbs.
WINTER SQUASH	2-4'	3-10'	25-50 lbs.
SWEET POTATO	9-12"	30-48"	8-12 lbs.
SWISS CHARD	6-12"	18-30"	8-12 lbs.
TOMATOES	18-36"	36-50"	20-40 lbs.
TURNIPS	2-3"	12-24"	10-20 lbs.
WATERMELONS	3-4'	5-10'	10-40 lbs.



WHY DID THE SHEEP

TO PARTICIPATE IN THE TRAILING OF THE SHEEP FESTIVAL, OF COURSE—AND TO GET TO THE OTHER SIDE.

Heaven forbid you should need to run an errand in downtown Ketchum, Idaho, on a certain Sunday afternoon in early October. Attempt to return a book to the library or buy bread at the bakery and next thing you know Main Street is



CROSS THE TOWN?

CAROL WALLER

filled with 1,500 sheep jostling straight through town, stoplights be damned. Oops—somehow you forgot to plan around the annual Trailing of the Sheep Festival.

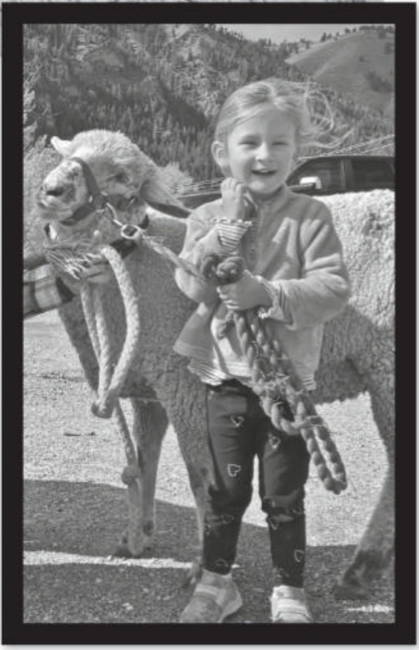
Sheep ranching has long been part of the state's culture. The enterprise started in earnest in the mid-1800s, outlasted silver- and lead-mining booms, and by 1918 the sheep population hit 2.65 million, six times the human population. Now, as then, sheep in the Wood River Valley are kept on high mountain slopes to graze

MIKE PATTERSON

through the summer months, tended by solitary herders who live with their flocks. In the fall, these herders and their faithful sheepdogs drive the flocks down to lower pastures more protected from harsh winter storms. Several distinct cultural groups have been vital to this history, from original Scottish settlers to a wave of Basque immigrants to Peruvian herders who often tend the flocks today.

Sounds idyllic, but a funny thing happened as "city folk" discovered Idaho in the 1990s. These newcomers claimed long-established sheep trails as recreational bike paths and clashed with local herders who depended on them for their livelihood. Seeking mutual understanding in 1996, sheep ranchers John and Diane Peavey invited anyone interested to meet at a café and take an educational walk with a migrating flock. People loved it, and by the next year the Trailing of the Sheep Festival was born.

The festival has now grown into a five-day cultural event that includes sheepdog trials, lamb-centric culinary demonstrations and performances by traditional Scottish, Basque and Peruvian dancers and musicians. The biggest draw remains the Sheep Parade, during which locals and visitors line Main Street as a huge sheep flock is herded south through town toward winter pastures. A member of the local clergy even wades into the woolly throng to bestow a blessing as they pass.


CAROL WALLER

The 2025 Trailing of the Sheep Festival, and Sheep Parade, will be held the first weekend of October.

food

for people who enjoy a good meal

BEST WINE
AUSTRALIA

Nothing Is Better Than Butter

CHEFS SWEAR BY IT. FOODIES OBSESS OVER IT. LET'S SPREAD OUT THE REASONS WHY.

With enough butter, anything is good," Julia Child famously declared, likely while massaging a liberal amount onto a roast chicken. While Child's butter devotion is legendary, she's certainly not the only culinary icon to swoon over it. "I couldn't live without butter," admitted cookbook author Ruth Reichl. "Butter is probably my favorite food." Truth told, pretty much everyone loves butter. Heck, you're probably thinking about it right now.

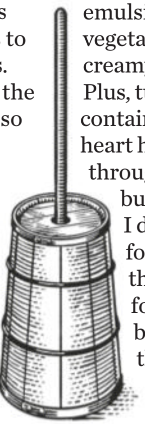
That craving felt by us human animals may be hardwired because it exists on several levels, according to Grace Derocha, a registered dietitian nutritionist and spokesperson for the Academy of Nutrition and Dietetics. "Back when humans were hunters and gatherers, we needed calories to survive a very active life," she says. "On a basic level, our bodies want the fat present in butter, and the salt, so it's fulfilling a couple of things."

Butter's next, not-so-secret weapons are taste and texture. "Butter is sweet and salty and rich, which activates a variety of taste buds," Derocha says. "And the mouthfeel of that particular creaminess can't be duplicated by anything else."

Butter's MVP status is further solidified by its versatility. "It's notable that it works so well with savory or sweet dishes," Derocha says. "It's practically irreplaceable in baking. If you don't add butter to cookies, they don't taste right."

But butter is bad for you, right? "With my dietitian hat on, butter is high in saturated fat and can raise bad cholesterol," Derocha says. "I've told patients with poor heart health that they can't have it every day, but it's hard to push away that bread-and-butter basket."

Does butter by any other name taste as sweet? Not really. "Plant-based substitutes made with coconut or olive oil are worth trying for vegans or people with heart issues, though they often include flavor additives or emulsifiers. Margarine, made from vegetable oil, tries to mimic that creamy texture, but it's not the same. Plus, turns out that margarine contains trans-fatty acids that aren't heart healthy," Derocha says. "We go through these cycles. One day we hate butter, one day eggs, one day sugar. I don't think we should demonize foods, as long as we keep in mind the individual who might have food issues. If you want to eat butter, it's a matter of managing that so it's OK for you."



After all, Julia Child lived to be 92.

Return of the

Dining on the patio at Rappahannock Oyster Bar in Washington, D.C., with owner Travis Croxton is like having a private seafood sherpa, expertly navigating the icy ridges and valleys of the just-shucked oysters on the platter between you.

These bivalve beauties are all of the species *Crassostrea virginica*, native to the eastern coast of the Americas, but represent three flavor profiles matching exactly where on the Chesapeake Bay they were harvested by Travis' other enterprise, Rappahannock Oyster Company.

"First, try this one," he prompts, oyster knife nudging a chilled half shell.

Slurp! The immediate sensation is a burst of freshness usually found only in seafood within a toe's dangle of a

Oyster

MEET THE PEOPLE WHO HAVE HELPED BRING GOURMET OYSTERS BACK TO A RAW BAR NEAR YOU.

By Steve Russell • Photos by Tyler Darden

waterfront dock, then discernible sweetness balanced by understated saltiness. The next oyster plucked from the platter also is clean and bright, with a heightened salinity that swaps places with the sweetness. Classic oyster taste, hard to beat—until the final style is tipped, that is. Harvested closest to open sea, it packs an unabashed brininess that begs to be enjoyed with a frosty beer. Even if the next shuck were to reveal a perfect pearl, an oyster lover might flick it aside just to get at the real treasure.

The recent return of gourmet Chesapeake oysters, and oysters along both coasts, is a sports analogy-worthy comeback story, even accounting for a worldwide pandemic that treated purveyors of fresh seafood more harshly than the rest of the hard-hit

PEARLS OF WISDOM

IN THE MOOD

Are oysters an aphrodisiac? They are rich in zinc and amino acids that boost sex hormones, but consuming a dozen won't morph you into a love machine. Couldn't hurt, though.

JURASSIC MOLLUSK

Zoologists believe that oysters first appeared more than 200 million years ago. And that the first caveman to eat one did so on a double-dog dare.

SHELL GAMES

The 2023 U.S. National Oyster Shucking Contest champ, Florida seafood joint shucker Honor Allen, cleared two dozen oysters prepped on the half shell in 1 minute, 58 seconds.

restaurant industry. The silver lining? Producers made it easier to ship super-fresh oysters directly to your door.

"We're really proud of how people respond to our oysters," Croxton says. "And when they see where they come from, they love them even more."

One day earlier and 140 miles south, in the rural coastal community of Topping, Va., a four-man crew readies for work. The breaking dawn reveals sailboats moored across the rippled surface of Locklies Creek, but these young guys are unfazed by a backdrop so picturesque it makes a landlubber swoon. In the "oyster shed," a weathered, garage-size wood shack perched on pilings over the water, they gulp coffee and pull on neon-orange or camo-patterned hip waders, boots and gloves.

The crew chief consults today's orders—the rare clipboard on which a random home cook shares space with world-renowned chefs. Two of the crew crank up the Evinrude outboard on a flat-bottom fiberglass boat and churn away from the dock. Soon the craft is out on the wide Rappahannock, where the early spring waters are choppy, green and butt-numbing cold. Under the chop are the storied oysters of the Chesapeake Bay.

Ancient heaps of shells show that Native Americans enjoyed the wild bounty here for thousands of years before Europeans came ashore. By the 1850s, millions of bushels of oysters were harvested annually by dredge boats, with boxcars of the prized

delicacy rolling north to New York City and Boston.

Rappahannock Oyster Company traces its lineage back to 1899, when farmer James Arthur Croxton purchased five acres of river bottom. Unfortunately, that was just about the heyday of *Crassostrea virginica*—by 1950, overharvesting, disease and habitat loss had taken their toll, slashing production by 99 percent.

The Croxton oyster beds were long dormant, but in 2002, a new generation, Travis Croxton and his cousin Ryan Croxton, hatched a brash plan—a return to producing high-quality oysters by embracing innovative aquaculture practices. Experts told them it wouldn't work, that Chesapeake Bay oysters were an inferior product. They were right, at least at first.

"We killed a lot of oysters," Travis admits, "but we learned quickly."

By 2004, they had oysters of which they could be proud. So they loaded a cooler, grabbed a Zagat restaurant guide, and headed for Manhattan. "They wound up at the delivery entrance of seafood shrine Le Bernardin. "I think they felt sorry for us, but the sous chef loved the sample. So they put our oysters on the menu."

That kind of credential kicks open doors, and word spread that the Chesapeake Bay was once again producing oysters fit for upscale raw

GRILLED OYSTERS WITH NDUJA BUTTER

Backyard oyster feast? Toss some on the grill and earn points with this chefy-but-simple treatment.

Serves 4

16 oysters, shucked on the half shell
8 oz. unsalted butter, softened
2 oz. nduja*
Sea salt to taste
1 Tbsp. olive oil
1½ oz. panko breadcrumbs
2 chives, thinly sliced

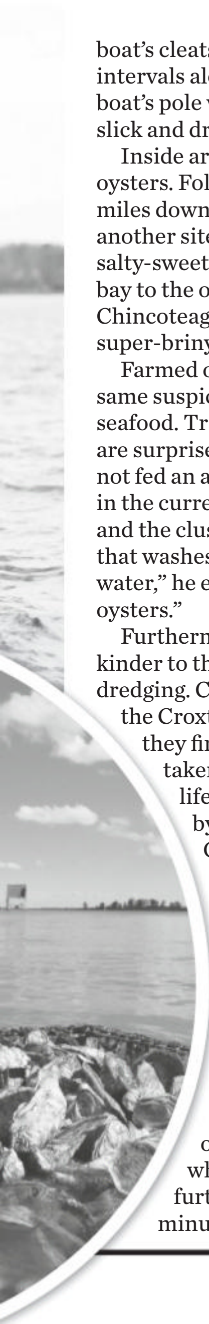
**Nduja is a spicy, spreadable salumi (and this recipe's secret weapon), available at many gourmet shops*

1. Preheat grill to 450°F. Blend butter with nduja until well combined and season with sea salt.
2. Heat olive oil in skillet on medium heat and toast breadcrumbs until golden brown. Remove from heat.
3. Scoop 2 tsp. butter mixture on top of each oyster. Arrange in a single layer on grill, cover and cook until hot and bubbly, about 5 minutes.
4. Remove from grill. Garnish with breadcrumbs and chives and serve warm.

Recipe provided by chef Dylan Allwood.

bars. Soon a dozen other producers, often family operations, were farming up and down the Bay. In 2004, the Croxtons harvested 3,000 oysters. In 2006, it was 300,000. And in 2024, they hit an astounding 12 million.

Back out on the blustery Rappahannock, the boat drops anchor near a knot of bobbing buoys. Hundreds of oyster cages are hidden by the murky water below, resting six inches off the bottom on metal legs. A crew member wields a long-handled hook to fish out a thick rope and wrap it around the



boat's cleats. Cages are fixed at intervals along the rope, and the boat's pole winch swings them aboard, slick and dripping.

Inside are mild, sweet, inner-bay oysters. Follow the current a few miles downstream and you find another site farming the more salty-sweet version. And exiting the bay to the open Atlantic near Chincoteague gets you to those super-briny ones.

Farmed oysters don't deserve the same suspicion as some other farmed seafood. Travis says that many people are surprised that farmed oysters are not fed an artificial diet. "The cages sit in the current right off the bottom, and the clustered oysters eat the algae that washes over them and filter the water," he explains, "just like wild oysters."

Furthermore, cage farming is kinder to the ecosystem than bottom dredging. Compare an aerial photo of the Croxtons' harvest area when they first began farming to one taken now, and you see brown, lifeless river bottom replaced by green native Widgeon Grass, a key element in curbing erosion.

After the boat is filled with cages and enough icy, brackish water to slosh around the ankles, it motors back to the shed. Cages are emptied into a rotating metal cylinder fitted with sorting holes, tumbling oysters onto a rolling belt where the crew performs further grading. Every few minutes someone pauses, whips out an oyster knife, and indulges in a little quality control. "Oh yeah, good oyster," declares one before getting back to the routine. Gloved hands move in rhythm while talk veers from weather to cars to girlfriends. The oysters and the language tend toward salty this morning.

It requires about 18 months to raise oysters to this moment. But as soon as they fill red mesh sacks or insulated boxes, they start going out via a succession of seafood company trucks and FedEx vans. That means that an oyster that's in the water today can grace one of those fancy, tiered seafood towers at a gourmet bistro tomorrow. Or, if you're so inclined, the picnic table in your backyard.

EAT 'EM ALL YEAR

You've probably heard the ages-old rule about eating raw oysters only in months that include the letter "R." In other words, don't consume them in the summer, no matter how many seafood shacks you might frequent. Well, that's wrong.

Not that the caution didn't make sense way back in the day, when lack of refrigeration meant that slurping raw oysters, quick to spoil in summer heat, was like playing shellfish roulette. Nowadays, of course, oysters are kept icy cold and alive all the way from the water to your local raw bar, or doorstep.

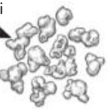
Red tide? Toxic algae? Yes, these occur more often in summer's warming waters, but the United States is quite strict about quality inspections. Another previously relevant factor was that wild oysters spawn in warmer waters, a process that leaves them flimsy and rank. Today's farmed oysters, however, are largely bred as sterile triploids that never reproduce. As long as you're not ordering a wild-harvested oyster from warmer waters, there's no issue. Pass the lemon wedge!

A Good Day to Dine

IS THERE ANY FOODSTUFF NOT CELEBRATED ON ITS OWN SPECIAL DAY? (THANKS, POLITICIANS WITH NOTHING BETTER TO DO!) LET'S CHEW ON THIS ABRIDGED LIST OF ACTUAL NATIONAL FOOD DAYS AND FIND OUT.

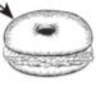
JANUARY

2	National Bloody Mary Day
4	National Spaghetti Day
5	National Whipped Cream Day (Well, there goes your New Year's resolution to eat healthier.)
9	National Apricot Day
14	National Hot Pastrami Sandwich Day
19	National Popcorn Day
21	National Granola Bar Day
24	National Peanut Butter Day
27	National Corn Chip Day
30	National Croissant Day



FEBRUARY

5	National Chocolate Fondue Day
7	National Fettucine Alfredo Day
9	National Bagels and Lox Day
14	National Cream Filled Chocolates Day (What a coincidence—it's also Valentine's Day!)
16	National Almond Day
18	National Crab Stuffed Founder Day
22	National Margarita Day
23	National Banana Bread Day



26	National Pistachio Day
28	National Chocolate Souffle Day

MARCH

4	National Pound Cake Day
5	National Cheese Doodle Day
10	National Blueberry Popover Day
12	National Baked Scallops Day
14	National Potato Chip Day (Bet you can't celebrate just one!)
16	National Artichoke Hearts Day
20	National Ravioli Day
26	National Nougat Day
28	National Something on a Stick Day
31	National Clams on the Half Shell Day

APRIL

1	National Sourdough Bread Day (No fooling!)
6	National Caramel Popcorn Day
12	National Grilled Cheese Sandwich Day
13	National Peach Cobbler Day
16	National Eggs Benedict Day
17	National Cheese Ball Day
18	National Animal Cracker Day
26	National Pretzel Day

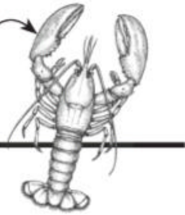
29	National Shrimp Scampi Day
30	National Oatmeal Cookie Day

MAY

1	National Chocolate Parfait Day
2	National Truffles Day
4	National Orange Juice Day
5	National Hoagie Day
7	National Roast Leg of Lamb Day
13	National Apple Pie Day
14	National Buttermilk Biscuit Day
20	National Quiche Lorraine Day
23	National Taffy Day (Feel free to stretch out the celebration.)
27	National Grape Popsicle Day

JUNE

2	National Rocky Road Ice Cream Day
4	National Frozen Yogurt Day
5	National Gingerbread Day
9	National Strawberry Rhubarb Pie Day
12	National Jerky Day
13	National Lobster Day
19	National Martini Day
21	National Peaches & Cream Day

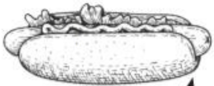


22 National Onion Ring Day (Can we sub for fries at no extra charge, then?)
25 National Catfish Day

JULY

4 National Barbecued Spareribs Day
6 National Fried Chicken Day

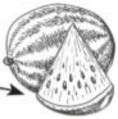
11 National Blueberry Muffin Day
16 National Corn Fritters Day
18 National Caviar Day
20 National Lollipop Day



23 National Hot Dog Day (Suggestion: Swap with Barbecued Spareribs Day.)
25 National Hot Fudge Sundae Day
28 National Lasagna Day

30 National Cheesecake Day

AUGUST



2 National Ice Cream Sandwich Day
3 National Watermelon Day

4 National Champagne Day (a.k.a. National Cork to the Eye Day)
5 National Chile Pepper Day

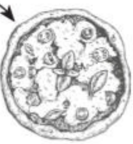
6 National Root Beer Float Day
10 National S'mores Day
14 National Filet Mignon Day

15 National Lemon Meringue Pie Day

24 National Waffle Day
31 National Trail Mix Day

SEPTEMBER

3 National Welsh Rabbit Day



5 National Cheese Pizza Day (C'mon, pizza is doing just fine without extra promotion.)
11 National Hot Cross Bun Day
12 National Chocolate Milkshake Day
13 National Peanut Day

14 National Cream-Filled Doughnut Day
17 National Apple Dumpling Day
26 National Pancake Day

27 National Corned Beef Hash Day
30 National Mulled Cider Day

OCTOBER

4 National Taco Day (Greedy much? Tacos already own every Tuesday.)
5 National Apple Betty Day
8 National Fluffernutter Day
15 National Roast Pheasant Day

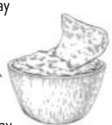
19 National Seafood Bisque Day

24 National Bologna Day
25 National Greasy Foods Day
27 National Potato Day
30 National Candy Corn Day

31 National Caramel Apple Day

NOVEMBER

2 National Deviled Egg Day
6 National Nachos Day



9 National Scrapple Day
14 National Guacamole Day
17 National Baklava Day
18 National Vichyssoise Day
21 National Stuffing Day
22 National Cranberry Relish Day

24 National Espresso Day (a.k.a. I've Got the Jitters Day)
28 National French Toast Day

DECEMBER

6 National Gazpacho Day (Chilled soup in December? Nice try.)
12 National Ambrosia Day
14 National Bouillabaisse Day

17 National Maple Syrup Day
18 National Roast Suckling Pig Day

19 National Fried Shrimp Day

21 National Hamburger Day

24 National Egg Nog Day
27 National Fruit Cake Day
29 National Bicarbonate of Soda Day

18+

WHAT IS
AVAXHOME?

AVAXHOME -

the biggest Internet portal, providing you various content: brand new books, trending movies, fresh magazines, hot games, recent software, latest music releases.

Unlimited satisfaction one low price
Cheap constant access to piping hot media
Protect your downloadings from Big brother
Safer, than torrent-trackers

18 years of seamless operation and our users' satisfaction

All languages
Brand new content
One site

AVXLIVE.ICU

AvaxHome - Your End Place

We have everything for all of your needs. Just open https://avxlive.icu

Turning Weather Into Wine

OPENING A BOTTLE OF VINO MEANS UNCORKING THE UNIQUE CONDITIONS OF THE PAST.

Good evening, sir. Oh, you'd like to know what wine to order with the pork marsala special? May I recommend a bottle of light-bodied cool climate? Perhaps a fruit-forward heat wave? Or you might be pleased by a nicely acidic, early harvest hurricane.

Wine is a complex and nuanced product shaped by a multitude of factors, none as influential as climate and weather. These factors play a pivotal role in determining the characteristics of the grapes that ultimately shape the flavor, aroma and quality of any given vintage—and often force a winemaker's hand on when to start that process.

CLIMATE

Long-term weather patterns play an outsized role in viticulture. A region's overarching climate determines the very grape varieties that can be successfully cultivated, and just about everything that follows.

Temperature. Except for maybe Popsicle vendors, nobody cares about temperature more than vineyard managers. Grapevines are sensitive to extremes, and their growth and the quality of their fruit are highly dependent on the tenuous balance of warmth and coolness. Wine regions generally are categorized into three climate zones: Cool climate regions, such Oregon, parts of Germany and wine-famous Burgundy, produce grapes with higher acidity and more delicate flavors. Such climates are associated with lighter-bodied wines and can enhance the aromatic complexity of popular varietals like pinot noir and Riesling. Moderate climate regions, such as Napa Valley and Bordeaux, offer a balanced growing environment that allows for a more diverse range of grape varieties. (Nevertheless, certain varietals, including crowd-fave cabernet sauvignon, express themselves differently in the maritime-leaning climate of Bordeaux than in dry, sunny Napa.) Moderate regions produce wines with a good balance of acidity, fruit and tannins, and are capable of producing both elegant and robust wines. Warm climate regions such as the southern United States, Australia and South Africa experience a slower drop off from summer into fall, giving grapes ample chance to fully ripen with higher sugar levels, leading to wines with more body and alcohol, but less acidity. These factors can shape bold wines with pronounced fruit flavors, such as Shiraz and Zinfandel.

Growing season and ripening. The growing season, which spans from bud break to harvest, is influenced by the local climate and weather patterns. The length and consistency of the growing season affect the ripening process. In warmer regions, the growing season tends to be longer, allowing grapes to reach full ripeness and develop more concentrated flavors. Conversely, in cooler regions, a shorter growing season may lead to higher acidity and more restrained fruit profiles.

Diurnal temperature variation. The difference between day and night temperatures also wields a heavy hand. A significant diurnal range, such as is common to Napa Valley, helps preserve the acidity in grapes while allowing for full phenolic ripeness, contributing to complexity and balance, and resulting in wines with vibrant fruit flavors and fresh acidity.

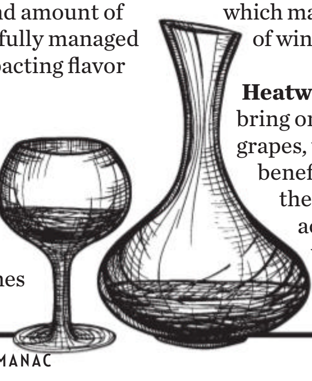
WEATHER PATTERNS

While climate provides the broader context for wine production, seasonal and even short-term changes can have a more immediate and dramatic impact. When oenophiles chatter about a wine being a "good year," this is largely what they mean. In fact, a recent Oxford University study that matched 70 years' worth of wine critic scores of Bordeaux wines to that region's weather records showed that higher quality wine is produced in

years with higher winter rainfall followed by warmer summers and shorter growing seasons.

Frost and freeze events. Spring frosts can be particularly damaging to grapevines, especially if occurring after bud break. If a winemaker has a recurring nightmare, it's of a late-spring frost killing young buds and setting the stage for reduced yields for the entire season. That's why growers in frost-prone areas often deploy costly protective measures including frost fans or heaters. Conversely, autumn frosts can be purposely harnessed, particularly for late-ripening varietals and dessert wines, where the timing of the harvest is crucial to achieving optimal sugar levels and flavor concentration.

Rainfall. Excessive rain during the growing season can lead to dilution of flavor, increased disease pressure and difficulties during harvest. In warm regions, it also can bring on rot and mildew, two words no winemaker wants to hear. Conversely, insufficient rainfall can stress vines and reduce yields. In many regions, irrigation is employed to supplement natural rainfall and ensure consistency. However, the timing and amount of irrigation must be carefully managed to avoid negatively impacting flavor profiles.



Drought. Drought conditions can significantly impact wine quality by concentrating flavors and reducing yields. Vines that experience water stress often produce smaller berries with higher skin-to-juice ratios, leading to more intense flavors and colors. While some winemakers view drought as a way to enhance wine quality, prolonged drought can result in vine stress and reduced productivity, which may affect the consistency of wine production.

Heatwaves. Heatwaves often bring on a rapid ripening of grapes, which can be both beneficial and detrimental. On the positive side, this acceleration can produce wines with higher alcohol content and more pronounced fruit

flavors. (What oenophiles sometimes dub a "big wine.") However, excessive heat can also lead to overripe and even sunburned grapes, resulting in wines that lack balance and freshness. (Plus, rubbing sunscreen on millions of grapes is a hassle.) This is another situation in which vineyard management becomes intense with efforts to provide shade or increase irrigation. Heatwaves in recent years have prompted some California vineyards, such as in Sonoma County, to move harvest up by several weeks.

Hail and hurricanes. Hailstorms pose a significant risk to vineyards, as hail can damage grapevines and harm the quality of the fruit. East Coast wineries must be on the alert during hurricane season and will often rush a harvest rather than risk the winds and heavy rains that can spoil a vintage.

ADAPTATION AND INNOVATION

Given the impact of weather patterns and the effects of climate change, the wine industry is continually adapting and innovating. Measures include developing new grape varieties that are more resilient to evolving conditions, adjusting vineyard management practices and employing advanced technologies.

Grape varieties. In response to changing climates, many wine regions are experimenting with different grape varieties that are better suited to new conditions. For example, regions experiencing warmer temperatures may introduce grape varietals that are more heat-tolerant or can maintain acidity in warmer climates.

Vineyard management. Modern vineyard management practices, including the use of cover crops, modified pruning techniques and controlled irrigation, help mitigate the effects of adverse weather and optimize grape quality. Innovations such as precision viticulture, which uses technology to monitor and manage vineyard conditions, are becoming increasingly important.

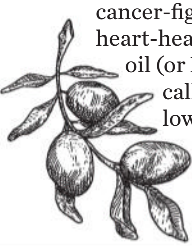
Winemaking techniques. Winemakers across the country and world also are adapting their techniques to address climate and weather challenges. Standing over a vat of crushed grapes somewhere right now, winemakers are adjusting their fermentation processes, blending different grape varieties and experimenting with oak aging to enhance the balance and complexity of the wines they'll soon bottle. We raise our glasses to them!

Oils For All

WHICH COOKING OIL IS RIGHT FOR THE RECIPE? POUR ON SOME EXPERTISE AND YOU CAN BE A REAL KNOW-IT-OIL.

Oil changes aren't just for old pickup trucks. Cooking oils play an important role in meal preparation, whether used for frying, sautéing, roasting or baking. So why do we often keep just a couple of mainstays in the cupboard, when there's a whole wide world of flavorful oils at our fingertips? Here's a quick, slick primer, along with some health notes.

OLIVE OIL You know it, you love it, you keep a bottle right next to the range because even though the fruity, herbaceous flavor is fairly mild, it wonderfully enhances sautés and roasted meats. As a bonus, it has cancer-fighting antioxidants and heart-healthy fats. Extra-virgin olive oil (or EVOO as foodies insist on calling it), however, has a fairly low smoke point of 375°F, so is best used when sautéing over relatively low temperatures or utilized in salad dressings and dips. For cooking at higher temps, consider EVOO's less-sexy cousin, light olive oil, which is still tasty but has a smoke point of 470°F.



CANOLA OIL Know why your grandmother didn't use canola oil? Because it wasn't introduced until the 1970s, when researchers at the University of Manitoba developed an

improved variety of rapeseed plant. (That's right, the "can" in "canola oil" denotes its Canadian origin.) Known as an all-purpose oil, canola's respectable smoke point (400°F) makes it suitable for frying, baking and grilling, and is favored by cooks who desire a neutral flavor. On the health front, it's low in saturated fat and contains a good amount of heart-healthy omega-3 fatty acids.

SUNFLOWER OIL Everyone loves sunflowers, and lots of people love the oil pressed from sunflower seeds for its mild taste and high smoke point (450°F). Furthermore, it's regarded as one of the healthiest oils because it's low in saturated fat and

high in omega-3s that can reduce cholesterol and triglycerides. And like olive oil, it's high in monounsaturated fatty acids that may reduce heart disease. Oh, and it's rich in vitamin E, which benefits vision, blood health and other bodily functions.

SESAME OIL If olive oil has been your steady so long that you've developed a wandering palate, have a fling with sesame oil. Because of its origins, it's often pigeonholed to Asian cuisine, but it's great for sautéing vegetables or marinating chicken. And like olive oil, it lends itself to salad dressings and dips that deliver a twist of nutty flavor. It also rivals the health attributes of olive oil. Say these magic words: Open a bottle of sesame!

COCONUT OIL Some cooks are downright bananas for coconut oil, whether they choose tropical-flavored unrefined (pressed from fresh coconut meat) or nearly flavor-neutral refined (steamed from dried coconuts). Refined coconut oil has a high smoke point of 450°F, so is suited for almost any use from stir-frying to baking. Its health aspects, though, are somewhat debated. While some believe its unique profile of saturated fats benefits blood lipids and raises good HDL cholesterol, the American Heart Association isn't convinced.

AVOCADO OIL When you make guacamole at home, you're about halfway to avocado oil. (You just need a centrifuge to separate the oil from that green mash.) Avocado oil boasts the highest smoke point of the bunch—480°F for refined and 520°F for virgin, so it's a superhero for worry-free frying, searing, roasting and grilling. It's also packed with those healthy monounsaturated fats.

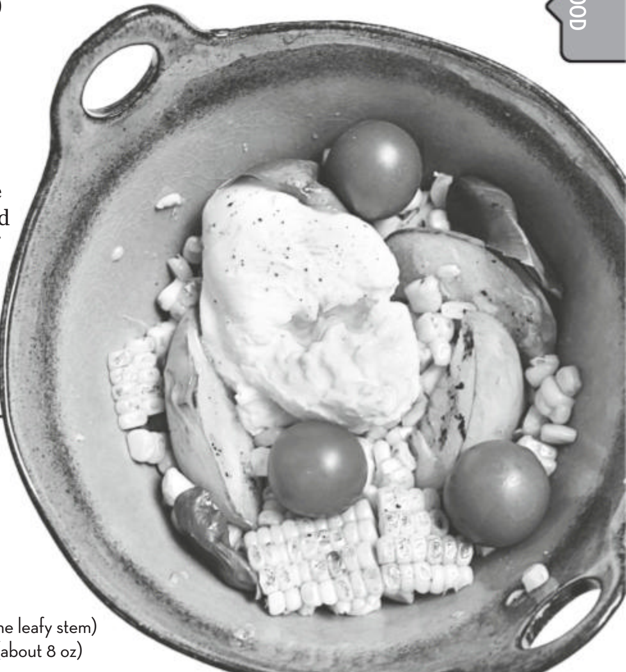
PEANUT OIL Smoke point-wise, peanut oil goes two ways, with 320°F for unrefined and 450°F for refined. The unrefined version is a workhorse for large-batch frying, which is why it's so commonly used by restaurants to crisp fried chicken and french fries. Asian cuisines also rely on the flavor in many dishes. Unfortunately, despite being a good source of vitamin E, nutritionists flag peanut oil for being very high in fatty acids that promote inflammation.

OUR ESTEEMED OIL EXPERT

Corn, Peach & Burrata Salad

SHUCK, GRILL AND ADD CREAMY CHEESE FOR THE ULTIMATE BOWL OF SUMMER!

While super-fresh sweet corn is the star of this dish, the smoky char of grilled peaches plays perfectly off rich, creamy burrata. And we know you have some cherry tomatoes around, so you might as well add those, too.



Serves 4

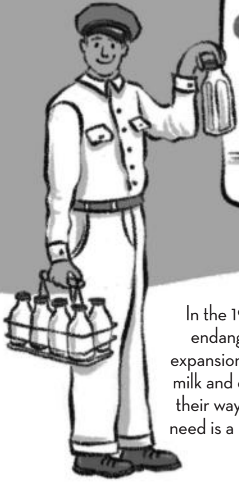
6 ears sweet corn, shucked
2 freestone yellow peaches
2 Tbsp. olive oil
Juice of ½ lime
Flaky sea salt
12 cherry tomatoes
¼ cup fresh basil, torn (about one leafy stem)
4 medium balls burrata cheese (about 8 oz)

1. Preheat grill to medium high. Grill corn, turning every 2 to 3 minutes until lightly charred all over. Remove and let cool long enough to handle.
2. Meanwhile, slice peaches into quarters. Grill until starting to soften, about 2 minutes per cut side. Remove and slice quarters in half.
3. Cut kernels from corn cobs and put into large mixing bowl. Add olive oil, lime juice and salt to taste. Stir gently and divide between serving bowls.
4. Divide peach slices, tomatoes and basil between bowls.
5. Top each salad with a ball of burrata. Drizzle with olive oil, sprinkle with fresh-ground pepper, and serve.

By Bambi Edlund

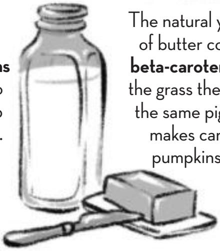
THE FAT & SKINNY ON Milk

"Don't have a cow, man."
–Bart Simpson



In the 1960s, the **milkman** became an endangered species. Today with the expansion of CSAs and grocery delivery, milk and other dairy products are making their way back to your doorstep—all you need is a mobile phone to get milk on tap!

It takes **2.5 gallons** of milk to make 1 lb of butter.



The natural yellow color of butter comes from **beta-carotene** found in the grass the cows eat—the same pigment that makes carrots and pumpkins orange.

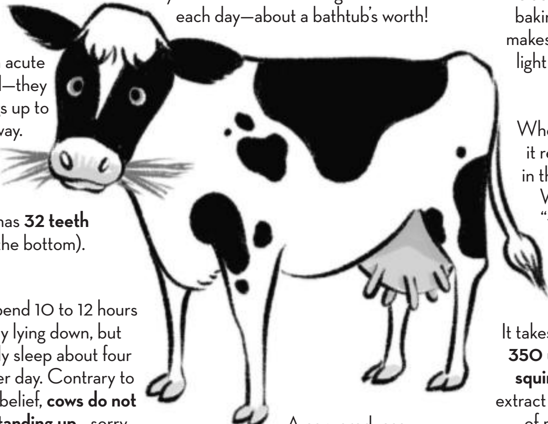
The **first cows** came to America in 1493, on Columbus' second voyage. There are now about 11 million cows in the USA, making 58 billion quarts of milk each year.

Milk contains **casein**, a protein that helps cool your mouth after eating spicy food.

A dairy cow **weighs about 1,400 lbs** and consumes about 50 lbs of food per day. They also drink around 50 gallons of water each day—about a bathtub's worth!

Buttermilk is the liquid left over after making butter, which is then fermented, turning the milk sugars into **lactic acid**. The acid in buttermilk reacts with baking soda, which makes baking extra light and fluffy.

Cows have an acute **sense of smell**—they can smell things up to six miles away.



A cow has **32 teeth** (all on the bottom).

Cows spend 10 to 12 hours per day lying down, but they only sleep about four hours per day. Contrary to popular belief, **cows do not sleep standing up**—sorry, aspiring cow-tippers!

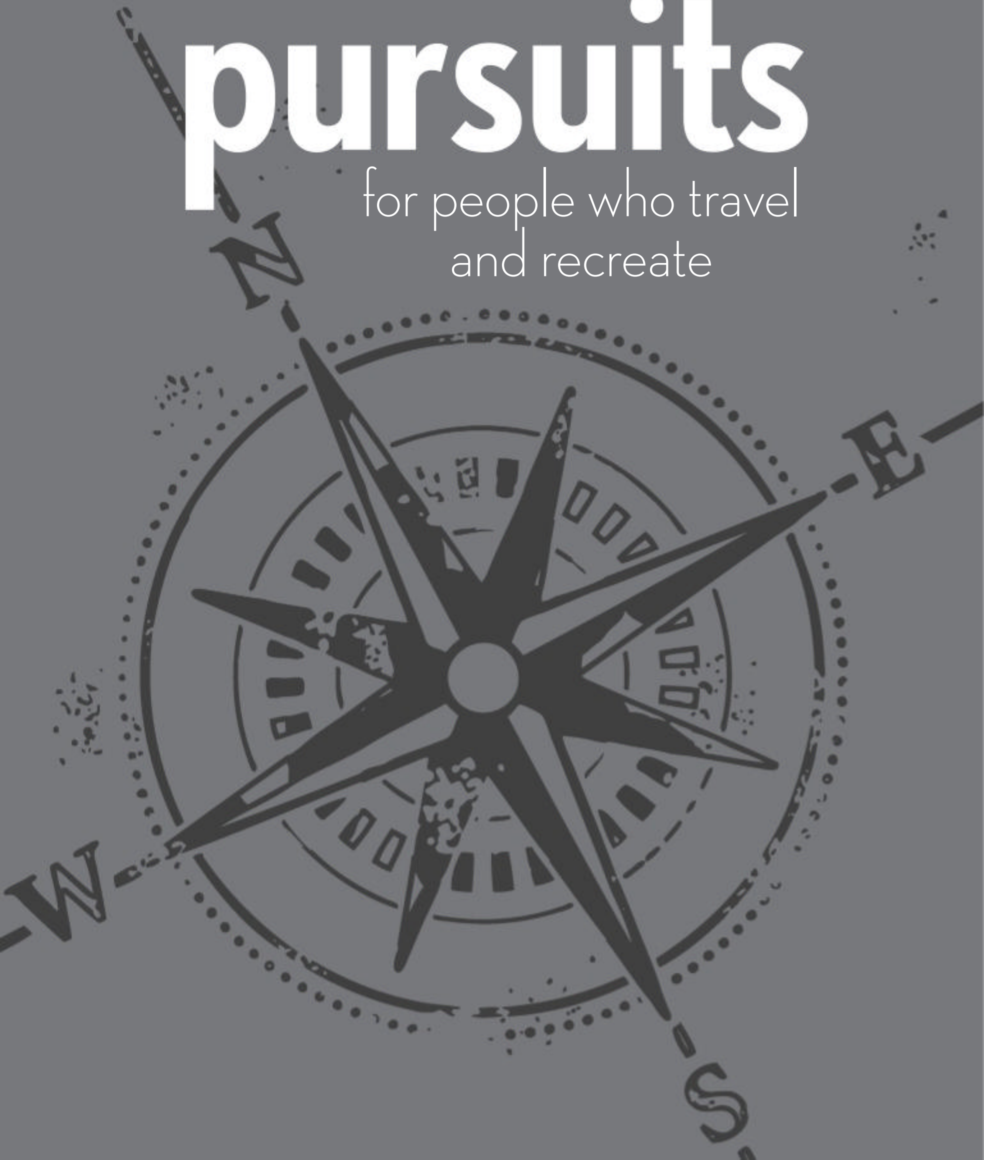
A cow produces **6 to 7 gallons** of milk per day.

When a **milk label** says 1% or 2%, it refers to the amount of fat left in the milk (in the form of cream). While it is sometimes called "full fat," whole milk actually contains only about 3.5% fat.

It takes about **350 udder squirts** to extract a gallon of milk.

american pursuits

for people who travel
and recreate



RAFT THE GRAND CANYON!

TO TRULY EXPERIENCE THE BEAUTY AND EXHILARATION OF THIS NATURAL WONDER, IT'S BEST TO GET TO THE BOTTOM OF THINGS.

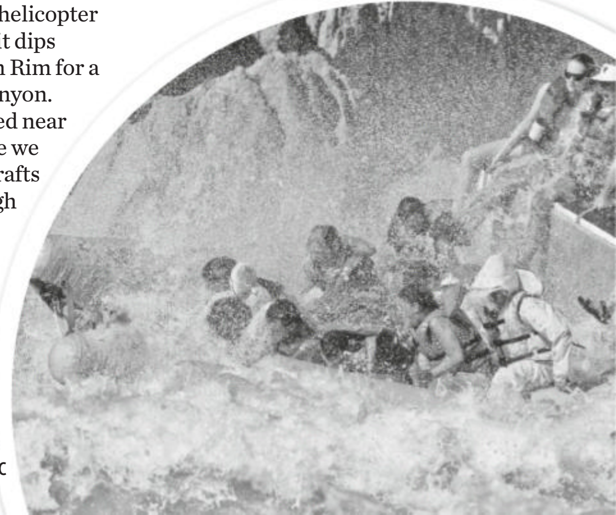
By Steve Russell

When my kids and I aimed to spend a school spring holiday rafting through the Grand Canyon, we knew it would be a thrilling adventure. What we didn't anticipate is that the thrills would kick off before we ever dipped a toe into the wild Colorado River.

The first adrenaline rush comes when we strap into a vintage prop plane outside Las Vegas that shudders and rattles for the entire hour-long upriver flight over increasingly remote desert before touching down on a ranch's dirt landing strip lined by cacti. We then are ushered onto a helicopter that no sooner lifts off than it dips precipitously over the North Rim for a startling descent into the canyon. Minutes later we're deposited near the river's sandy edge, where we get a first look at the pair of rafts that will transport us through both gorgeous scenery and frothing rapids over the next few days.

After a few more whirlybird landings, our assembled group follows the guides' orders to stuff luggage into waterproof sacks and stow them as securely as possible. Our raftmates are a mix of American and foreign tourists from as far away as England and Belgium, mostly families. We get acquainted as the rafts shove off into a gentle, green current, but chatting halts when we round a bend into a long view that, it must be said, surpasses anything a photo can offer.

The Grand Canyon, as promised by the name, is both immense and spectacular. Its formation began about 5 million years ago when the primor-



WESTERN RIVER EXPEDITIONS

dial Colorado started eroding through layer upon layer of sedimentary rock that had been raised by plate tectonics. Today, the water's steady work has carved a meandering chasm 277 miles long that averages a depth of 4,000 feet and is 18 miles across at its widest. Here, below the North Rim, it's narrower, reducing the sky to a blue ribbon floating high above steep walls striped of peach, yellow and rust red.

Of the 5 million visitors to the Grand Canyon each year, the overwhelming majority view it from the top. Only 27,000 experience it via raft, even fewer over a multiday trip, so we consider ourselves fortunate indeed.

That gratitude comes into question when we detect a telltale roar ahead, and the guides reiterate passenger options for traversing the upcoming rapids. These choices are made possible by the fact that we're not aboard a typical oval raft. Western River Expeditions has been doing this since 1961, and along the way patented the "J-Rig," an oversized, 10,000-pound raft composed of five rubber tubes lashed together and capable of hauling 66,000 pounds of passengers, gear and food through thrashing cascades of water. One can sit atop padded, somewhat sheltered benches in the middle (dubbed the "chicken coop") or a more exposed bench farther forward, or for the daring, straddle a tube way out front. We didn't come all the way to the Grand Canyon for a leisurely float, so somewhat nervously scoot out on the tubes. I've already sampled the

river's spring-melt frigidity, so caution my daughter, hunkered down behind me, that even if an icy deluge steals her breath away, to never release her grip on the safety rope. As we're sucked into the rapid, I can't believe how huge it looks from this perspective. Even aboard the J-Rig, it's like riding a bronco through a hurricane. Roiling waves crash from all directions, and we gasp for air as it feels like our portion of the raft is submerged. Just as I'm questioning the series of decisions that led me to this moment, the water begins to smooth out and we once again can draw breath and blink at the scenery around us. What a thrill!

As the setting sun casts angular, ever-changing shadows across canyon walls, the rafts pull up to a relatively wide stretch of sandy riverbank and we quickly make camp. Chairs are circled around a crackling fire as the guides transform into cooks and whip up a satisfying dinner of chicken, salad and even a dessert cobbler.

The night hasn't grown very old when the exhaustion of a whirlwind day takes hold and we retreat to our chosen campsite. One of my kids, having heard the guides mention "rattlesnakes and scorpions," insists on sleeping in the tent, but the other one and I crawl into sleeping bags atop cots set up outside. I've camped in the Ozarks and on Mexican beaches, but have never witnessed a night sky as brilliant with stars as this one. The Milky Way arches across the canyon opening, and as I drift off, it seems almost a cosmic reflection of the river that gurgles just a few yards away.

The morning is chilly, the coffee hot. After bacon and eggs, we're on the river again, listening to the guides' tales of early canyon explorers and reaching for the safety ropes as we tackle even bigger, more turbulent rapids. After

each, I take a quick head count to make sure everyone is still aboard. Today's journey isn't totally about rapids, though. We pause at a rounded, orange-hued riverside rock appropriately dubbed Pumpkin Springs, off which the bravest among us gamely leap. (I pass, not owing to a fear of heights but an aversion to swimming in freezing water.) A couple of more hours downstream, the next activity is more my speed, requiring a short hike and a bit of a scramble up rope ladders to access the magical Travertine Grotto, a series of pools and waterfalls hidden in the canyon walls. A photo of my kids captured here becomes one of my all-time favorites.

We're not done with rapids, however. Indeed, the biggest section yet, called the "230s" after its downstream mile marker, soon looms into view. It's a raging beast, seemingly lacking any obvious path through, and even the guides seem a bit anxious. They've proven more than capable, however, so we scramble onto the forward tubes and hold on for dear life while the raft leaps, lunges and twists its way to the other side.

There's a rumor that we'll be rewarded with a full steak dinner. I know I'll eat hardily, just as I know that I'll try to stay awake long enough to fully appreciate another star-laden sky. Tomorrow, we'll float to the takeout point at Pearce Ferry and be shuttled back to a different sort of bright lights. But for tonight, all I want to ponder is how the extremes of adventure and peace can both be delivered at the bottom of one truly grand canyon.

10th MOUNTAIN DIVISION HUTS

COLORADO BACKCOUNTRY SKIING IN THE TRADITION OF WWII'S FAMED MOUNTAIN INFANTRY.

Backcountry alpine skiing requires skill, endurance and a considerable tolerance for risk. Still, it's a popular pursuit for many Colorado outdoor enthusiasts. Leaving fancy resorts and chairlifts far behind, they ski long miles into white-blanketed wilderness, more likely to encounter an avalanche than avocado toast. Their reward is pristine air, stunning scenery, and if they've planned well, a restful night inside a mountain hut.

Mountain huts are remote cabins positioned specifically for use by backcountry skiers, sometimes reachable only by that means. They've long existed in Europe, but are less common in the United States. That said, a group of intrepid skiers began establishing them in Colorado in the 1950s, sometimes converting abandoned miners' cabins, and now there exists a network of huts that can be

ED OGLE

10TH MOUNTAIN DIVISION HUTS

Members of the 10th Mountain Division, dressed in snow-camo suits and skis at the ready, commence their training during WWII.

reserved by those in the know. In the central Colorado Rockies, 350 miles of suggested backcountry routes spanning Aspen, Breckenridge and Crested Butte connect a collection of 38 cabins overseen by 10th Mountain Division Huts.

"The elevation gain from a trailhead to one of our huts can be 1,200 or even 2,000 feet within six or seven miles," says spokesperson Cindy Carpenter. "So pace yourself, it's not a race. Some skiers take a full six hours to get there."

The not-for-profit organization's name is inspired by a division of the U.S. Army that formed during WWII and trained for cold-weather mountain combat at Camp Hale (designated a National Monument by President Biden in 2022) in nearby Eagle River Valley. The camp was equipped with barracks, of course, but soldiers were known to make use of area cabins and shelters during arduous training missions.

As WWII broke out in Europe, U.S. military brass took notice of how brave Finnish soldiers on skis destroyed two invading Soviet armored units despite being outnumbered and outgunned, and subsequently utilized the private National Ski Patrol to help recruit experienced skiers from clubs and colleges. The newly formed 10th Mountain Division was activated at Camp Hale in 1943 with 8,500 soldiers who trained in mountain warfare and cold-weather survival in anticipation of combat in similar terrain overseas. Their distinctive white snowsuits stood out among the Army's usual olive drab uniforms, but provided the appropriate camouflage for snowy field maneuvers.

By January 1945, the 10th Mountain was deployed to Italy, where it joined front-line fighting against Axis forces in the Northern Apennines. Using rock-climbing skills learned in Colorado, soldiers summited a ridge and cleared the enemy in four days of heavy fighting. In March, the division fought further north to help cut Axis supply and communication routes in the Po Valley, and in April broke through German defenses, crossed the Po River, and fought off a counterattack until German resistance in Italy collapsed. Next was Austria, where it received the surrender of German units before victory in Europe was declared. The division then received orders to participate in the planned invasion of mainland Japan that became unnecessary when the atomic bombings of Hiroshima and Nagasaki brought the war to an abrupt end. Even spared that assault, the 10th Mountain had taken high casualties, suffering 992 soldiers killed in action and 4,154 wounded. An impressive 7,729 members were awarded the Bronze Star for heroic service in a combat zone.

CLOCKWISE FROM TOP LEFT: A group of backcountry skiers departs from 10th Mountain Division Hut's Peter Estin hut. Some huts accommodate as many as 16 overnight guests, so offer plenty of space to relax after arrival and write thoughts in a journal. Skis parked outside the snow-blanketed Continental Divide Hut, which sits at an elevation of 10,500 feet.

Back in America, hundreds of these battle-hardened veterans chose to settle down in Colorado, where they used their wartime skills in peacetime pursuits, including building Colorado's nascent ski industry. One of those vets, Fritz Benedict, long dreamed of building a network of backcountry ski huts similar to those he'd encountered in the Alps, and with several other Aspen-based skiers formed the 10th Mountain Division Hut Association in 1982. (Former secretary of defense and part-time Aspen resident Robert McNamara helped persuade the U.S. Forest Service to get on board.) It has now built 14 huts in the White River National Forest and handles bookings for two smaller systems and several privately owned huts comprising 24 additional units. Though they range in size, almost all are off the grid, heated by firewood and sometimes requiring use of an outhouse.

Though rustic, mountain huts are a welcome sight to skiers who've braved altitude sickness by trekking above an elevation of 11,000 feet, using a topographic map to discern a rough trail that may be subject to avalanches and dramatically evolving weather.

"Skiers who do this need some experience and stamina, and they have to bring along their own food and sleeping bags, so need to pack well," Carpenter says. "The trip up is about taking in the clouds and blue sky, and maybe even a snowstorm, on the way. It's a wonderful experience that's not for everybody." For those wanting to flatten the learning curve if not the ascents, the 10th Mountain Division Huts website lists several local outfitters that hire out guides.

Most huts have a bunkroom that accommodates more than a dozen guests (bring earplugs!), and a few also offer private rooms. Reservations, which run $37 per person a night, are for a bed only, so huts are almost always shared with other parties (occupancy runs 85 percent in winter), though certainly not on the scale of European huts that can have 200 beds. "Huts are purposely remote, so once you get there, you're committed," Carpenter says. "But the fireplace will likely already be burning, and the communal spaces are very spacious." Firewood, by the way, is provided.

After catching their breath, guests typically use the kitchen's supplied cookware to melt snow and whip up a meal, then clean up before making use of board games and playing cards, or just chatting with other skiers with a cup of hot cocoa in hand. The next morning, chores are shared to ready the hut for the next guests before departing. Some skiers trek another six or so miles to the next hut in the system. Others climb to an even higher elevation to get some big turns on nearby backcountry slopes. Most just head back the way they came, which this time, fortunately, is downhill. "Oh, the trip down is just alpine skiing—it's very pleasant," Carpenter says. "All in all, it's a unique backcountry experience."

10TH MOUNTAIN DIVISION HUTS (3)

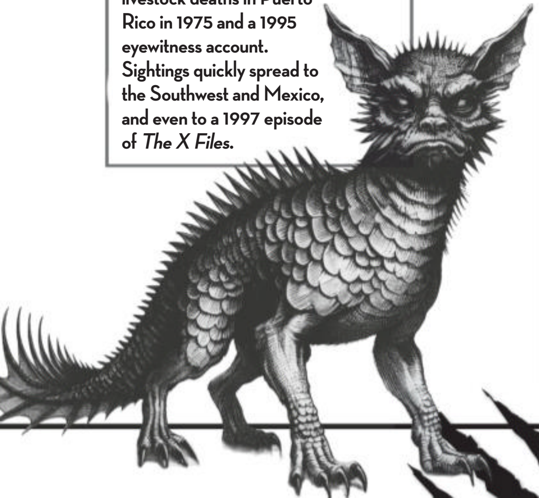
FIELD GUIDE TO AMERICAN

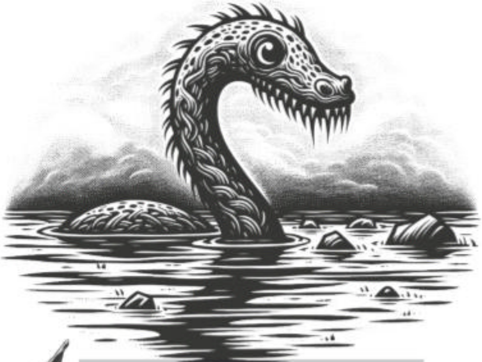
America is home to dozens of folkloric creatures of both ancient and modern origin. So many, indeed, that it seems you couldn't swing a wooden stake without smacking one. Then again, if these cryptids—as they are known to so-called cryptozoologists—share a common trait, it's their sheer elusiveness in the face of fame. If you're contemplating a monster-hunting expedition, take along this handy guide to identifying every fang, fin and oversized foot of the best beasties.

CHUPACABRA

TERRITORY: Puerto Rico, American Southwest

PROFILE: A moniker that translates to "goat sucker" is freaky enough, but this fearsome, nocturnal creature scores extra points with a reptilian visage completed by back spines and glowing red eyes. Notably, bloodthirsty Chup is a modern legend, spawning from mysterious livestock deaths in Puerto Rico in 1975 and a 1995 eyewitness account. Sightings quickly spread to the Southwest and Mexico, and even to a 1997 episode of *The X Files.*





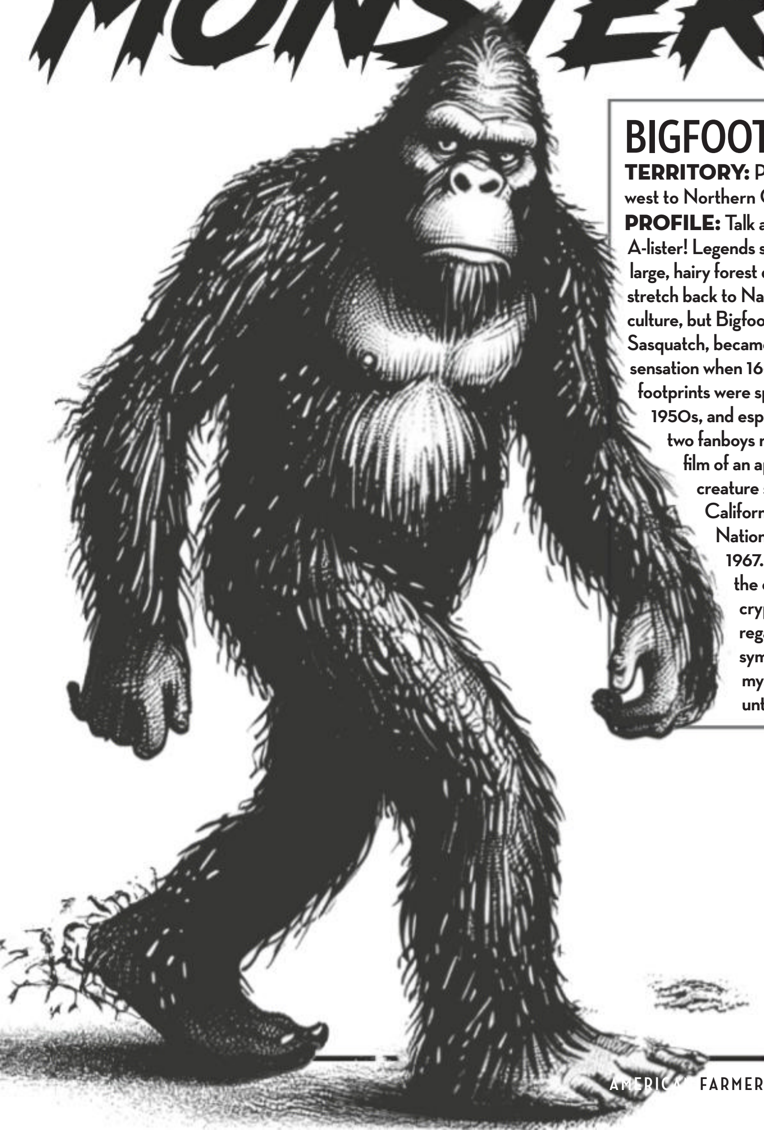
TESSIE

TERRITORY: Lake Tahoe, Calif.

PROFILE: Lake Tahoe doesn't vibe the same misty mystery as Scotland's Loch Ness, but it's plenty big and deep enough to be the home of Nessie's cousin, Tessie. From mid-1800s Washoe and Paiute tribes down to today's vacationers, dozens of sightings have described a huge serpent creature. Unusual for cryptids, Tessie also seems to be on a schedule, often surfacing in mid-summer of even-numbered years. Plan accordingly.

HOW TO SPOT OUR LAND'S MOST COMPELLING CRYPTIDS—BEFORE THEY SPOT YOU.

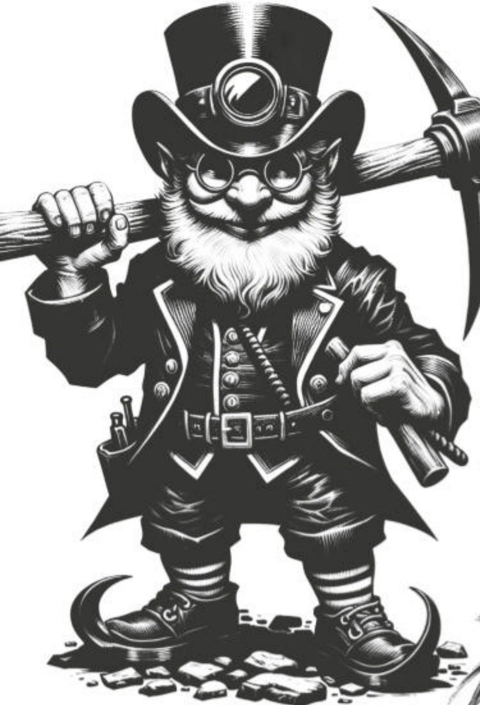
MONSTERS



BIGFOOT

TERRITORY: Pacific Northwest to Northern California

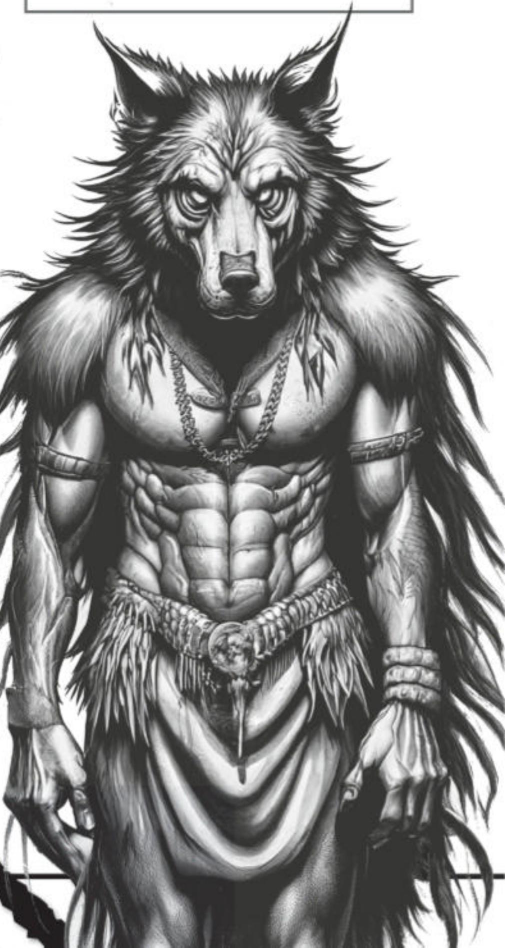
PROFILE: Talk about an A-lister! Legends surrounding large, hairy forest dwellers stretch back to Native American culture, but Bigfoot, aka Sasquatch, became a national sensation when 16-inch footprints were spotted in the 1950s, and especially after two fanboys recorded shaky film of an ape-like creature strolling in California's Six Rivers National Forest in 1967. Some fear the elusive cryptid, others regard him as a symbol of nature's mysteries and untamed spirit.



TOMMY-KNOCKERS

TERRITORY: Mines from Pennsylvania to Colorado to California

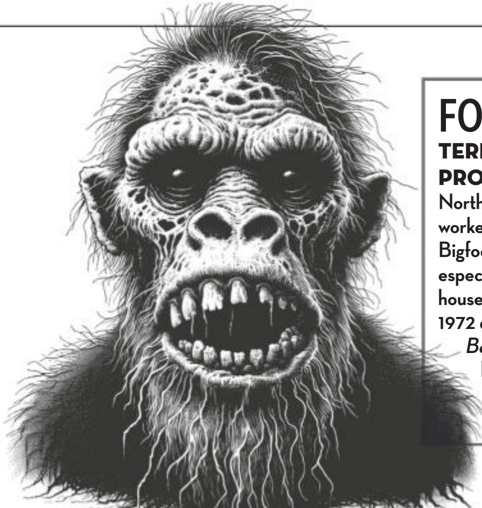
PROFILE: For some reason, when Cornish miners emigrated to America during the 19th-century mining boom, they brought these knee-high, subterranean tricksters with them. Attired like miners themselves, Tommy-knockers can be glimpsed scampering into the darkness, often after swiping tools or food. On the other hand, their telltale knocking on mine walls can warn of an impending cave-in—even if it's too late to escape.



SKIN-WALKERS

TERRITORY: Arizona, New Mexico, Utah

PROFILE: Navajo legends present skin-walkers as malevolent sorcerers who commit heinous acts to gain the power to transform into animals at will, typically coyotes, foxes or crows. In human form, skin-walkers still exhibit animalistic traits and can use their red eyes to possess victims. Other powers are said to include reading minds and reanimating the dead, and not in a good way. These cryptids are straight-up sinister.



FOUKE MONSTER

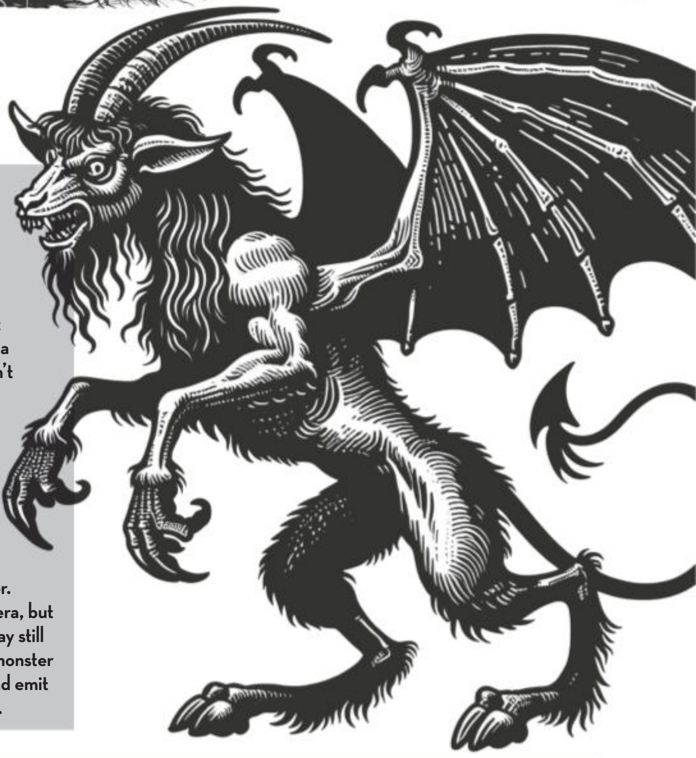
TERRITORY: Southwest Arkansas swamps

PROFILE: Not to be outdone by the Pacific Northwest, the rural community of Fouke got worked up about its own bayou-dwelling, Bigfoot-like creature in the early 1970s, especially after it reached through a window of a house, as re-created in the genuinely spooky 1972 documentary-style flick *The Legend of Boggy Creek*. Hunting dogs couldn't track it, but sightings have continued, including 40 in 1997 alone. The creature also is recognized by its eerie howls.

JERSEY DEVIL

TERRITORY: New Jersey Pine Barrens

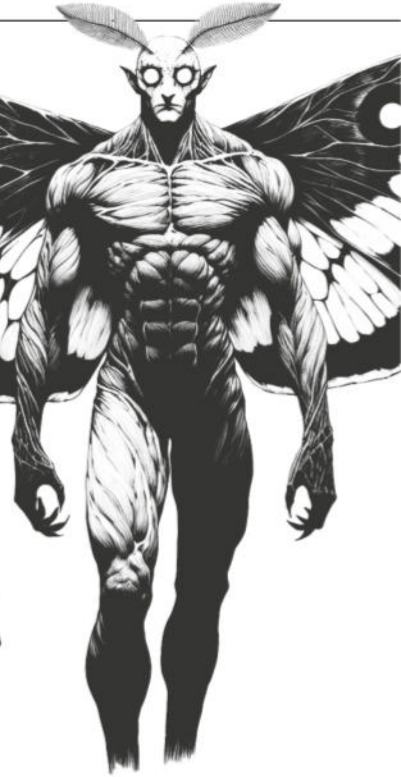
PROFILE: Bearing bat wings, cloven hooves and a horse's face, ol' JD doesn't even need a creepy backstory, but boasts a whopper anyway. The 18th-century legend says that a beleaguered mother offered her unborn 13th child to the devil, and upon birth it transformed and killed her. That was a superstitious era, but Pine Barrens visitors today still swear they can hear the monster glide through the night and emit blood-curdling screeches.

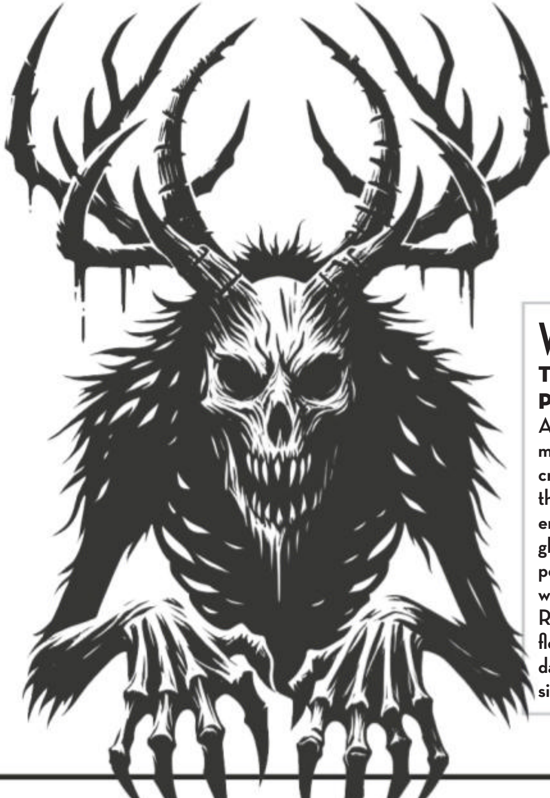


MOTHMAN

TERRITORY: West Virginia

PROFILE: Oh, the name "Mothman" doesn't fill you with dread? When this humanoid's large, white wings are attached to a muscular, seven-foot frame topped by hypnotic, glowing red eyes, you might feel otherwise. Another relative newcomer, Mothman first appeared in 1966, chasing cars and otherwise terrorizing the populace of small-town Point Pleasant. His presence was believed to be a harbinger of doom, linked to a 1967 bridge collapse that killed 46 people.

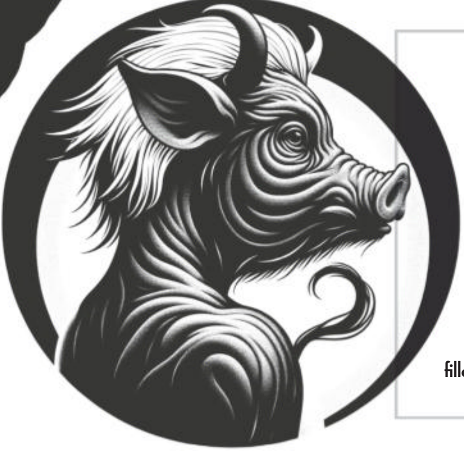




WENDIGO

TERRITORY: Great Lakes region

PROFILE: Passed down from Algonquin folklore to a receptive modern audience, the Wendigo's creepy aura is twofold. First of all, there is its manifestation as a tall, emaciated figure with antlers and glowing red eyes. Then there is its power to possess the souls of those who've committed cannibalism. Roaming icy forests, it craves human flesh and serves as a reminder of the dangers of starvation and the dark side of survival.



PIGMAN

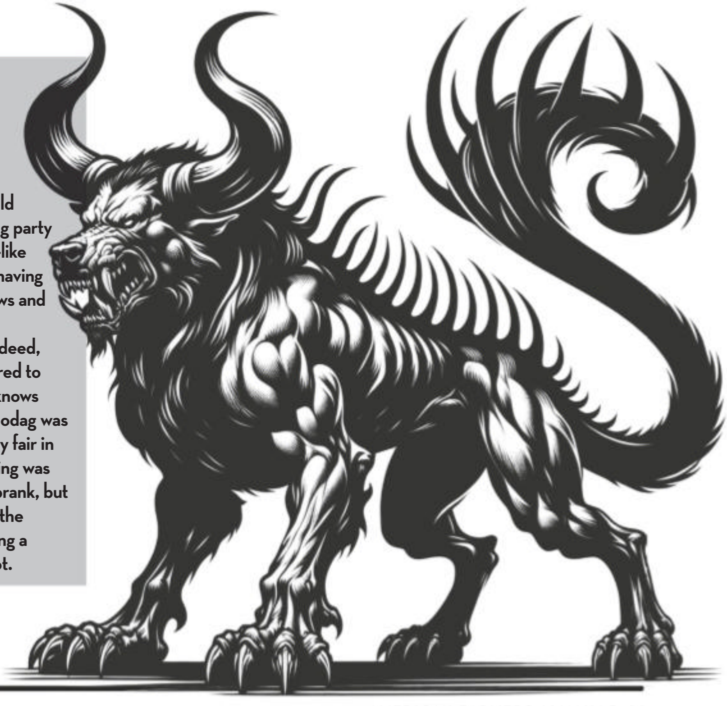
TERRITORY: Vermont

PROFILE: The 1971 disappearance of several farm animals, then a young farmer, took an even stranger turn when linked to the sighting of a white-haired humanoid with the head of a pig. Lore says the creature, which oinks and grunts ominously, could be the result of a botched experiment. In addition to face-to-snout encounters, accounts include the discovery of a cave filled with Pigman's hoofprints and a pile of gnawed animal bones.

HODAG

TERRITORY: Northwoods of Wisconsin

PROFILE: It would take a valiant hunting party to go after a canine-like beast described as having bull horns, huge claws and teeth, spines and a spear-tipped tail. Indeed, dynamite was required to finish it off, so who knows how a second, live hodag was displayed at a county fair in 1896. The whole thing was soon revealed as a prank, but that hasn't stopped the hodag from becoming a beloved local mascot.



A VISIT TO KEENELAND, THEN AND NOW

SCENIC VIEWS AND HISTORIC CHARM, WHETHER YOU'RE A RACING ENTHUSIAST OR JUST HORSING AROUND.

Kentucky is famous for two widely beloved things—bourbon and horses. Both receive fervent attention on the first weekend of May each year, converging at Louisville's Churchill Downs for the horse race-slash-huge party that is the Kentucky Derby.

Slightly under the general public's radar over in Lexington, however, exists what actually may be the center of the thoroughbred horse universe, known simply as Keeneland. It is on these immaculately landscaped 1,038 acres where some of world's most prized horses are stabled and trained, and where horse people from around the globe gather a few times a year to bid obscene amounts of money for what they think will be the next Triple Crown winner. (There's a reason why the modest airport across the road

KEENELAND (2)

swarms with private jets.)

There is racing, too, on a pretty, oval course that incorporates both dirt and grass tracks. At fall and spring "meets," races run five days a week for three weeks, with the April meet serving as final warm-up and vetting for the Derby. Fashionable racegoers do tend to model the same sort of elaborate hats associated with the Derby, but the scene is more relaxed. While Churchill Downs' grandstand can hold 100,000 onlookers, Keeneland's grandstand capacity is closer to 8,000. Knowingly, Keeneland calls it "racing as it was meant to be."

It all sounds pretty exclusive, yes? Nonetheless, the grounds are open to public tours year round. So, whether you want to place a wager, sample the rarefied air of a thoroughbred auction, or just soak in the atmosphere of a bucolic horse farm, Keeneland is worth adding to any gallop through the Bluegrass State.

As you might guess, a place this stately and steeped in tradition wasn't thrown together last week. Its origin story dates to 1933, amid the Great Depression, when the historic Kentucky Association track closed and left Lexington without a comparable facility. Members of central Kentucky's thoroughbred community banded together to remedy that, purchased and improved the original 147 acres of rural property that became Keeneland, and in October 1936, held its inaugural nine-day meet. The budding enterprise was in the red that first year, losing a whopping $3.47, and by its second year turned a profit.

Establishing a home for thoroughbred sales was central to Keeneland's mission; its first auction in 1938 sold 31 horses that brought in $24,885. (Nowadays, that amount might buy one tail hair of a top-prospect yearling.) In 1940, Keeneland became

KEENELAND
ROLEX

KEENELAND (3)

the first American track to install an electric starting gate, and the first to use photo-finish equipment in 1946. Racing was suspended during WWII, but Keeneland still managed to contribute hundreds of thousands of dollars toward the war effort.

Over subsequent decades, additional barns were built and grandstands enlarged, but care was always taken to maintain an aesthetic of authenticity. In 1984, lifelong horsewoman Queen Elizabeth II made an informal visit to catch the races, prompting Keeneland to create a race in her honor and construct a more secure winner's circle in which she presented the trophy. The Queen Elizabeth Challenge Cup is still run every year.

In time for Keeneland's 50th anniversary in 1986, it was named a National Historic Landmark, providing further reason to preserve its history and character even as it continued to grow in importance to the thoroughbred community. Key scenes in the 2010 Hollywood movie *Secretariat*, which chronicled the career of the legendary 1973 Triple Crown winner and his owner, Penny Chenery, were filmed at Keeneland largely to take cinematic advantage of this "retro" feel.

Fifty-seven tin-roofed barns, most of them clustered just north of the track, contain 1,951 stalls capable of stabling as many horses during peak times. (Fun fact: Horse folk tend to be a tad superstitious, so there's no barn number 13.) As dawn breaks, a cadre of groomsmen rouse themselves to feed, brush and otherwise attend to resident horses' every need. (Another fun fact: More than 20,000 tons of straw bedding and manure are mucked out of the stalls annually and converted to fuel oil.) Soon after, walkers lead horses along winding dirt paths between white fences, exercise riders put them through their paces around the main and practice tracks, and veteran trainers hover to eyeball every aspect of the horses' behavior and performance.

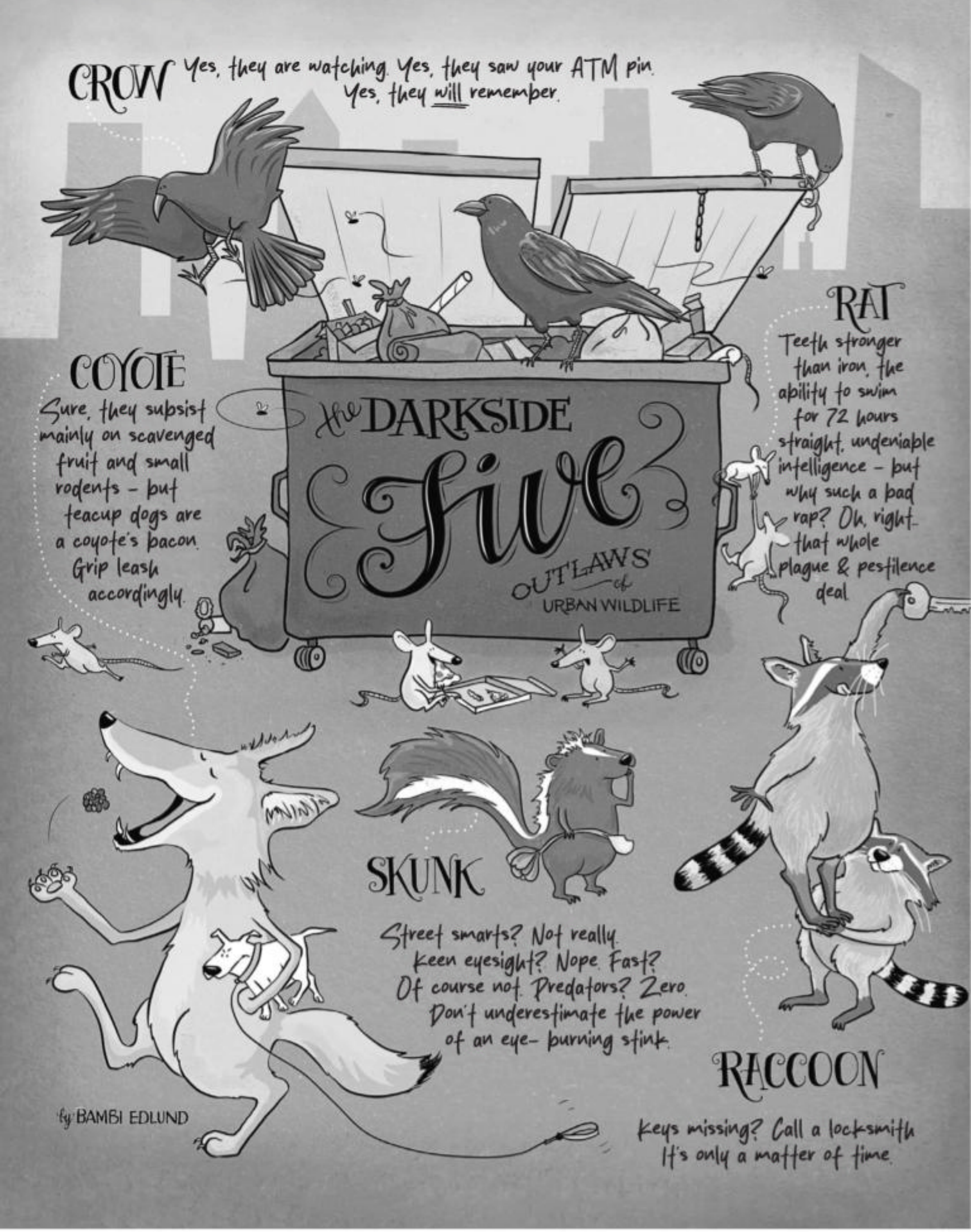
As early as 6 a.m., visitors can observe some of these daily rituals, including horses training on the main and practice tracks. Though it starts a little later, sign up for the guided "morning works" tour to see and learn

MVP
6
KEENELAND

more about training methods. The "backstretch" tour, available from spring to fall, grants an even deeper look into the daily rhythms and rituals of the stables. Participants might observe a racehorse being bathed or receiving new shoes before the tour also makes stops at the main track and the sales pavilion.

But what if you crave a little more action? On select days in September and November, a tour grants participants a behind-the-scenes peek into the unique culture of the world's leading thoroughbred auction house, including the sales pavilion and auction ring. Keeneland auctions have long set records, with the 1985 bid of $13 million for yearling Seattle Dancer still standing as the most expensive in history. This is where some of racing's greatest horses have changed hands, including the most recent Triple Crown winner, 2018's Justify.

Want to catch a race when meets are running? Claim a seat in the grandstand, watch a few races to gain your bearings, and then, hey, place a small wager. (Picking your horse because you like its name is perfectly acceptable.) Is there bourbon? Of course there's bourbon, though a cold beer might pair better with a bowl of burgoo, a Kentucky-favorite meat-and-veggie stew. Somehow it all comes back to the views, though. During the spring meet, 500 forsythia bushes lining the track bloom in blazing yellow, and in fall, carefully pruned trees glow with turning foliage. Combine this with the colorful silks of the jockeys, and the athletic grace of the horses they ride, and it's not hard to understand why Kentuckians consider Keeneland special. Even if your horse comes in dead last, you've still won.



the DARKSIDE Five

OUTLAWS of URBAN WILDLIFE

by BAMBI EDLUND

CROW

Yes, they are watching. Yes, they saw your ATM pin. Yes, they will remember.

COYOTE

Sure, they subsist mainly on scavenged fruit and small rodents – but teacup dogs are a coyote's bacon. Grip leash accordingly.

RAT

Teeth stronger than iron, the ability to swim for 72 hours straight, undeniable intelligence – but why such a bad rap? Oh, right... that whole plague & pestilence deal.

SKUNK

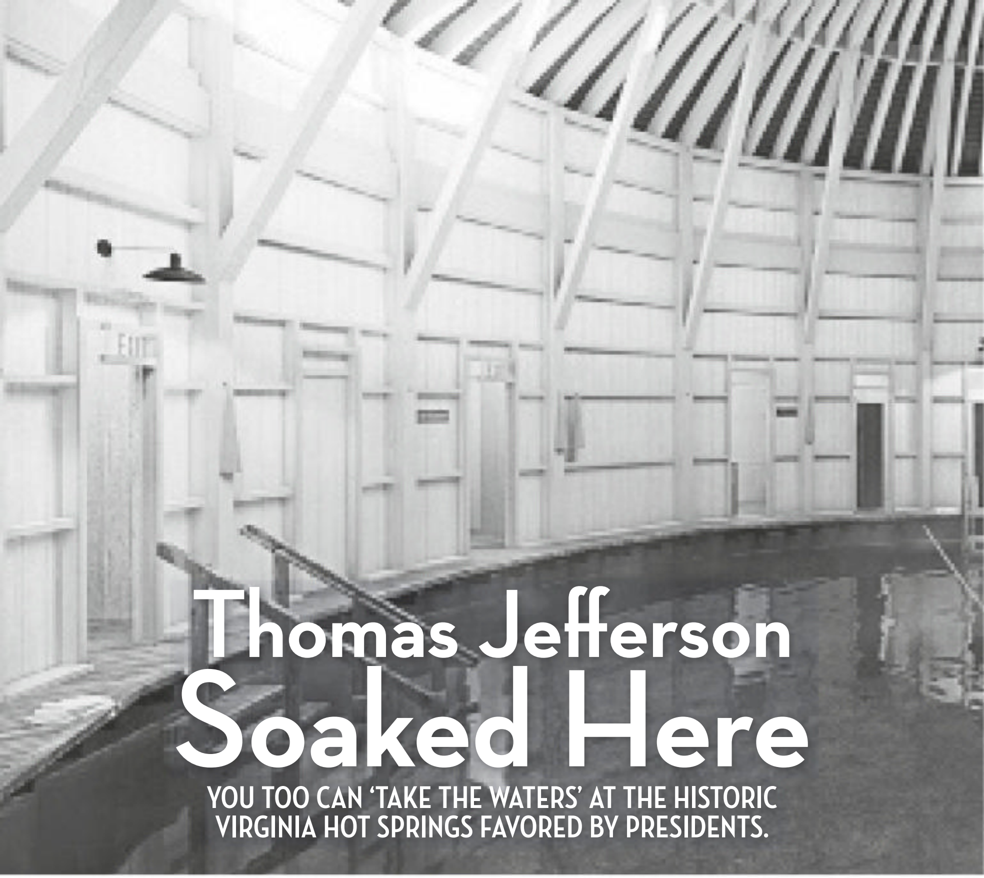
Street smarts? Not really. Keen eyesight? Nope. Fast? Of course not. Predators? Zero. Don't underestimate the power of an eye-burning stink.

RACCOON

Keys missing? Call a locksmith. It's only a matter of time.

history

for people
who know
a thing
or two



Thomas Jefferson Soaked Here

YOU TOO CAN 'TAKE THE WATERS' AT THE HISTORIC VIRGINIA HOT SPRINGS FAVORED BY PRESIDENTS.

Having Thomas Jefferson and Franklin D. Roosevelt soak in its geothermal waters is enough to qualify any natural hot springs as a landmark. Warm Springs Pools in Virginia's rural Bath County can claim even deeper historical cred, with archaeological evidence indicating the site has been visited by humans for at least 9,000 years.

By 1761, enough Colonial-era travelers were seeking out the springs to spur construction of a limestone basin for easier access, qualifying it as the oldest spa structure in the United States. By the 1870s, two rustically handsome wood bathhouses sat side by side, the octagonally framed Gentlemen's Bathhouse and the slightly larger Ladies' Bathhouse with its nearly circular 22 sides. Between those dates, in 1818, aging former president Jefferson took the waters several times a day for three weeks, writing his daughter that he found the experience of "first merit." Such an esteemed visitor caused the attraction to be known as Jefferson's Pools for much of its subsequent existence. Perhaps that's why later presidents John Tyler and FDR sought out the same waters, widely held to offer

OMNI HOMESTEAD RESORT (2)

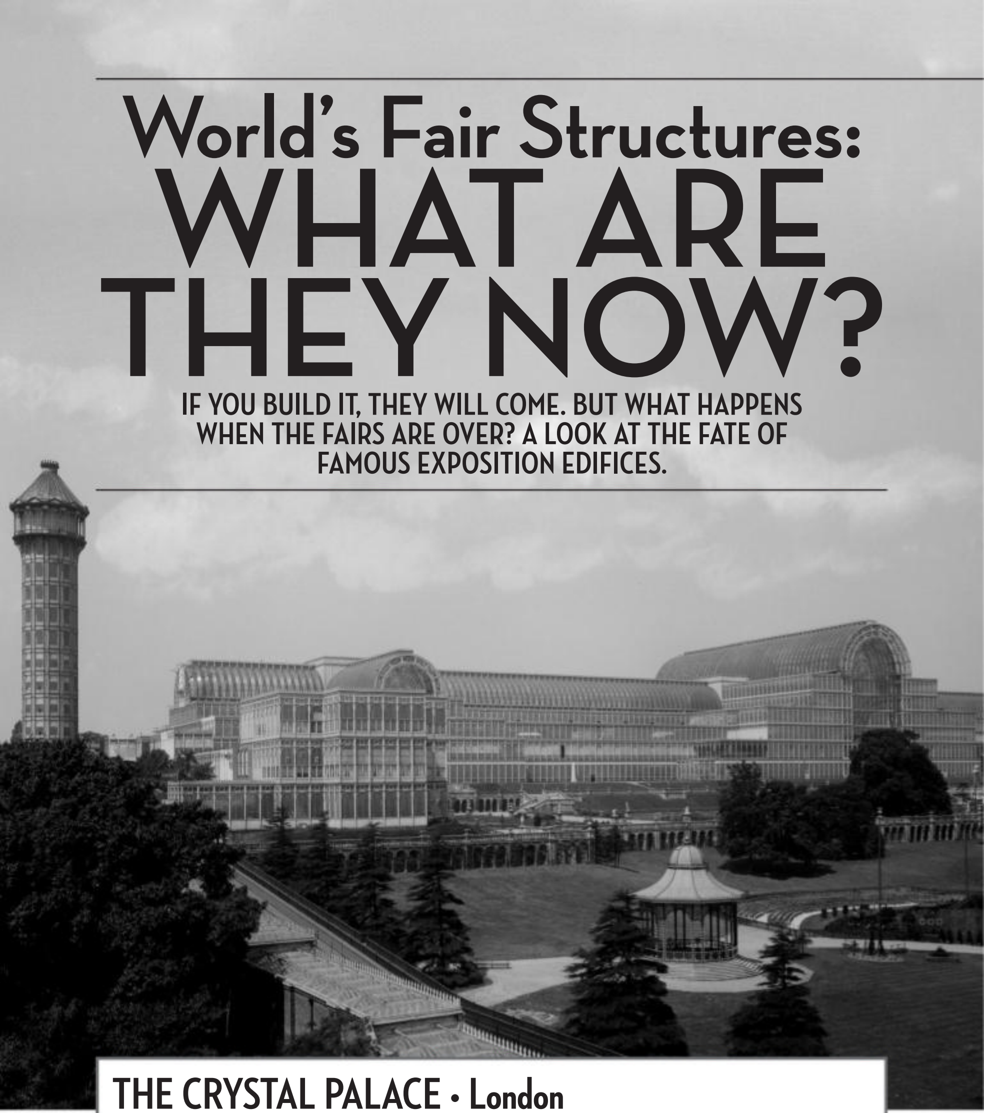
therapeutic powers.

Even inclusion on the National Register of Historic Places didn't save the hot springs from becoming more of a hot mess in recent decades—turns out that constant steam is tough on wood structures. That's why Omni Homestead, the nearby resort that purchased the site nearly a century before, renovated and rechristened the bathhouses in 2022 as Warm Springs Pools. Bathers now find it much as it appeared circa 1925, extending to pastoral surroundings. And they find the mineral-rich, constant 98-degree waters as they've been for millennia, flowing crystal clear at the rate of 1,700,000 gallons a day. "The benefits of soaking in these natural springs are remarkable," says Homestead managing director Mark Spadoni. "Each of the 15 minerals has health benefits from soothing skin to boosting blood circulation and relieving pain."

Regardless of belief in those benefits, a soak is a relaxing escape while gazing up through the steam into an open sky framed by the ceiling's central oculus. After all, how many spa treatments also function as a time machine?

World's Fair Structures: WHAT ARE THEY NOW?

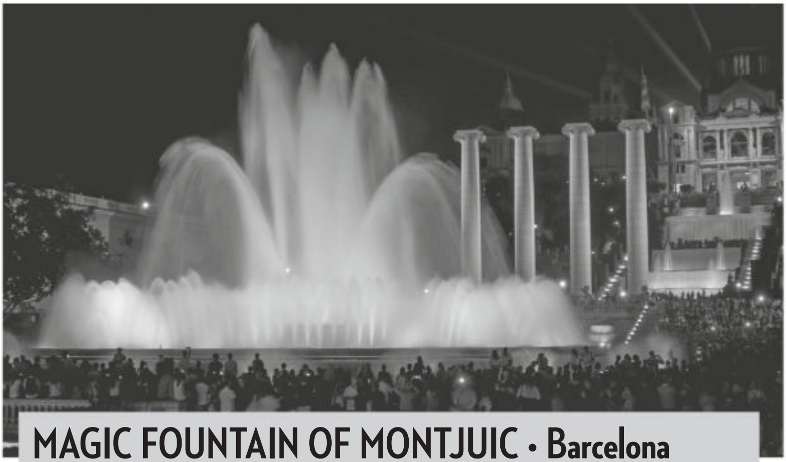
IF YOU BUILD IT, THEY WILL COME. BUT WHAT HAPPENS WHEN THE FAIRS ARE OVER? A LOOK AT THE FATE OF FAMOUS EXPOSITION EDIFICES.



THE CRYSTAL PALACE • London

STORY: Three times the size of St. Paul's Cathedral, the immense showcase space of the 1851 Great Exhibition was constructed of cast iron and plate glass in Hyde Park. With 60,000 panes of glass, it claimed the greatest area of glass ever seen in a building at that time, and amazed visitors with its clear walls and ceilings that made interior lights unnecessary.

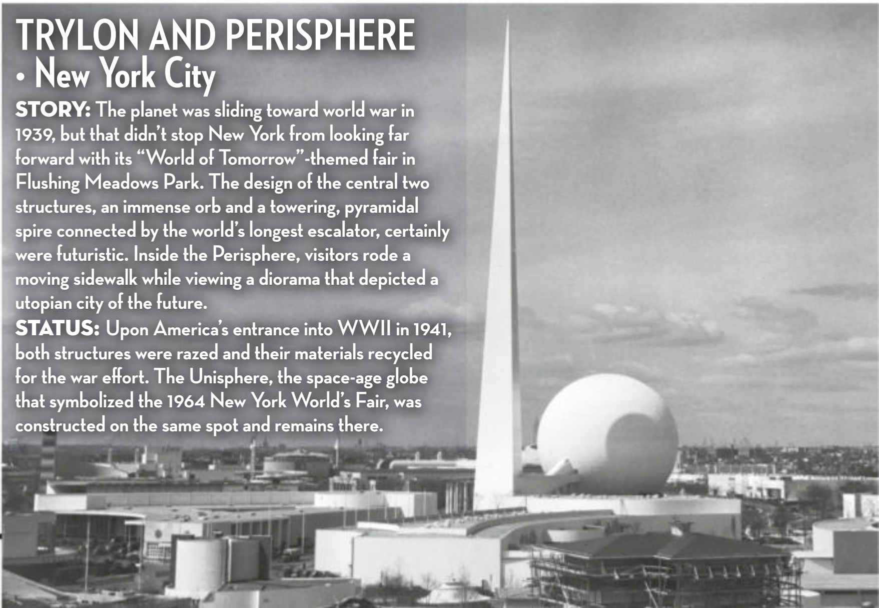
STATUS: Amazingly, after the event, the whole shebang was purchased by a business consortium and reconstructed on an open space in South London, where it hosted events that included concerts and circuses. After a period of decline, in 1936 the entire structure was consumed in an inferno that could be seen from as far away as the rural countryside.



MAGIC FOUNTAIN OF MONTJUIC • Barcelona

STORY: Several structures built for the 1929 Barcelona International Exposition remain today, none more enchanting than this massive, ornamental fountain meant to awe and entertain attendees. It required 3,000 workers to complete the designer's plan in less than a year, with the first "performance" taking place the day before the fair's opening. The fountain forces 700 gallons of water a second through 3,620 jets to create elaborate, choreographed sprays, the highest spout soaring 170 feet.

STATUS: Damaged during the Spanish Civil War, the fountain didn't operate again until 1955. Popular music and a light show were incorporated in the 1980s, and today the fountain is one of the city's most popular attractions.



TRYLON AND PERISPHERE • New York City

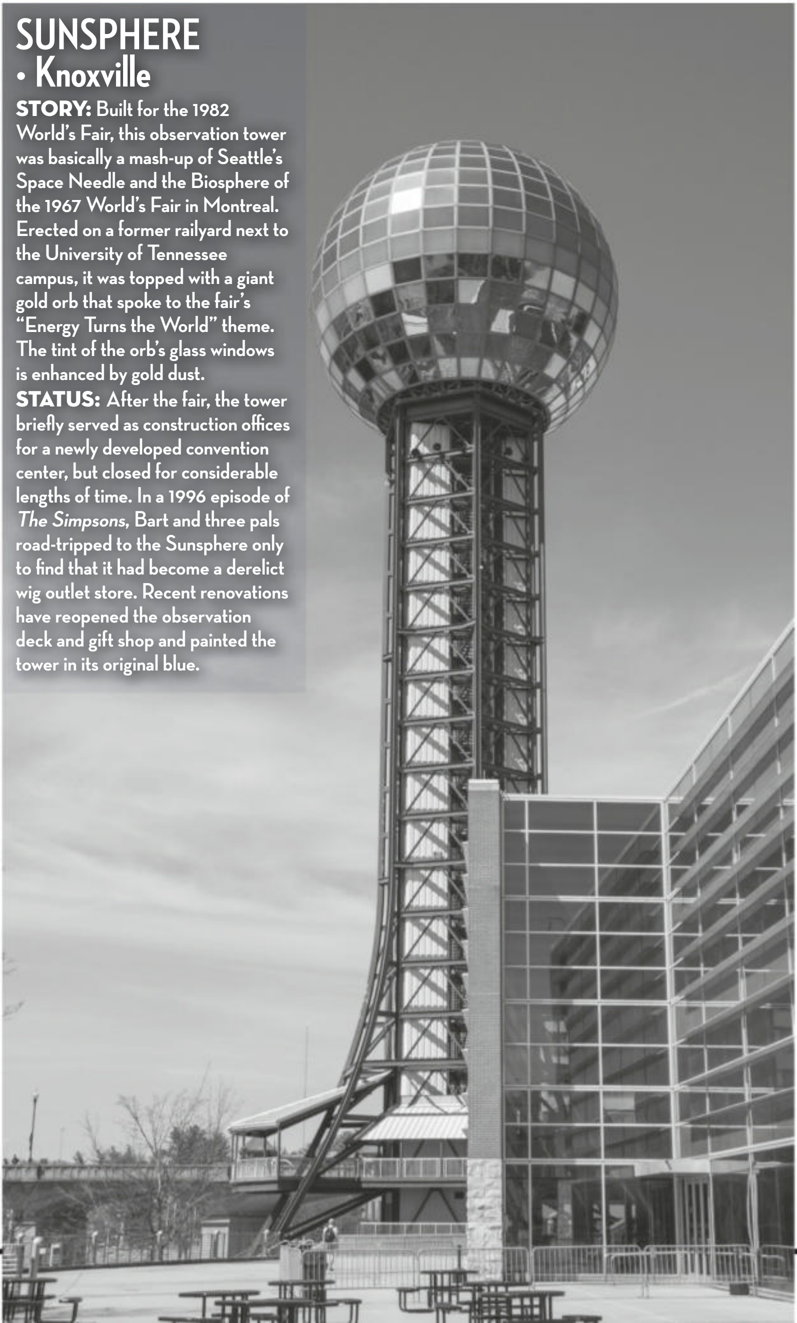
STORY: The planet was sliding toward world war in 1939, but that didn't stop New York from looking far forward with its "World of Tomorrow"-themed fair in Flushing Meadows Park. The design of the central two structures, an immense orb and a towering, pyramidal spire connected by the world's longest escalator, certainly were futuristic. Inside the Perisphere, visitors rode a moving sidewalk while viewing a diorama that depicted a utopian city of the future.

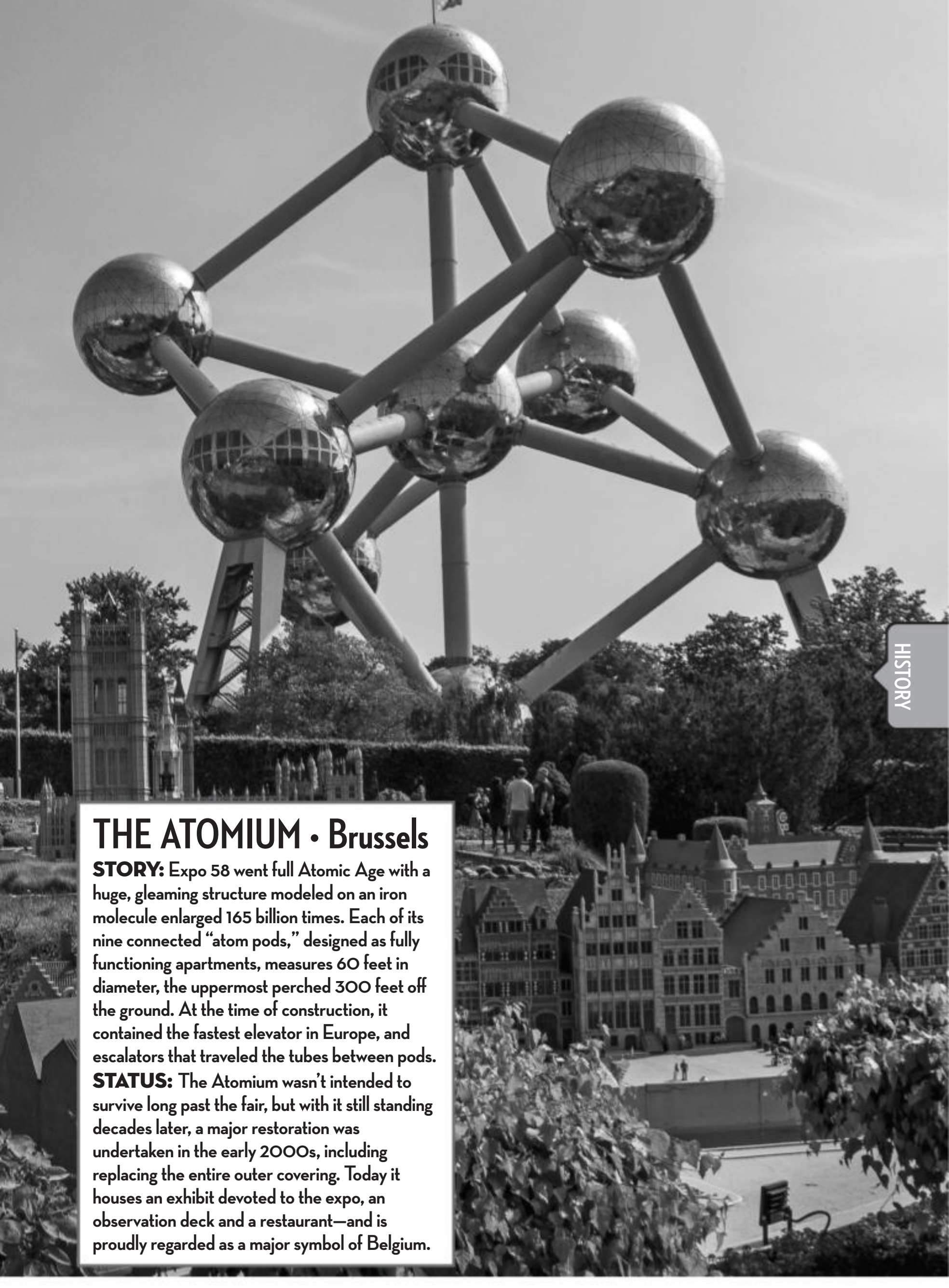
STATUS: Upon America's entrance into WWII in 1941, both structures were razed and their materials recycled for the war effort. The Unisphere, the space-age globe that symbolized the 1964 New York World's Fair, was constructed on the same spot and remains there.

SUNSPHERE • Knoxville

STORY: Built for the 1982 World's Fair, this observation tower was basically a mash-up of Seattle's Space Needle and the Biosphere of the 1967 World's Fair in Montreal. Erected on a former railyard next to the University of Tennessee campus, it was topped with a giant gold orb that spoke to the fair's "Energy Turns the World" theme. The tint of the orb's glass windows is enhanced by gold dust.

STATUS: After the fair, the tower briefly served as construction offices for a newly developed convention center, but closed for considerable lengths of time. In a 1996 episode of *The Simpsons*, Bart and three pals road-tripped to the Sunsphere only to find that it had become a derelict wig outlet store. Recent renovations have reopened the observation deck and gift shop and painted the tower in its original blue.

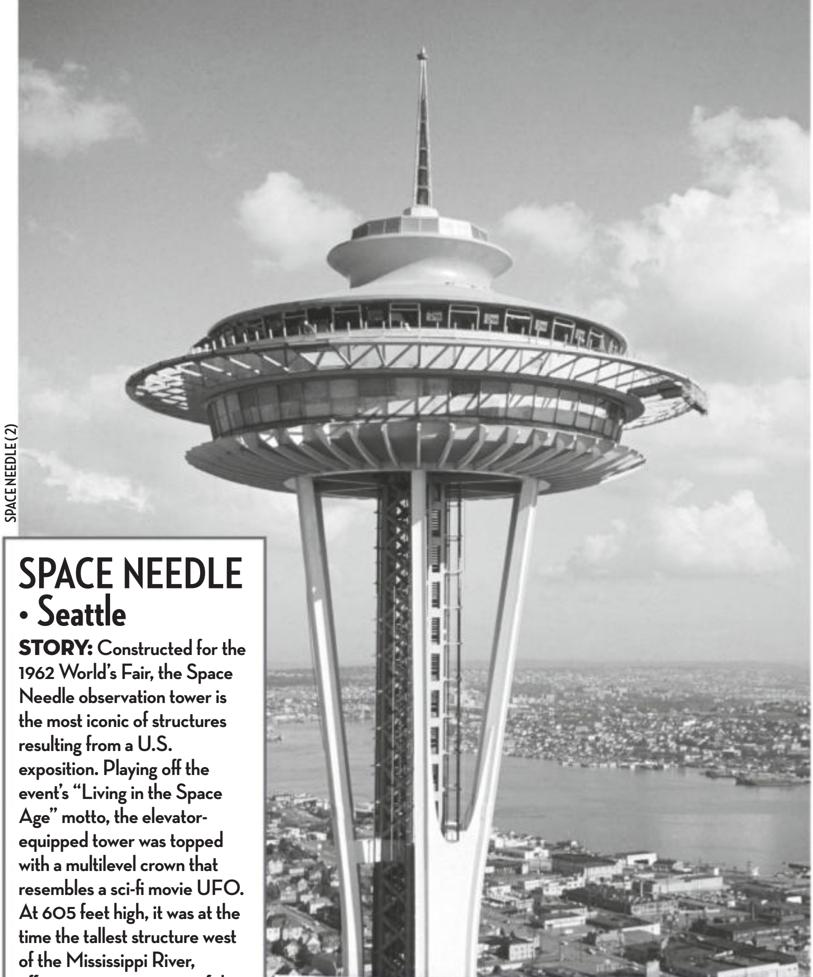




THE ATOMIUM • Brussels

STORY: Expo 58 went full Atomic Age with a huge, gleaming structure modeled on an iron molecule enlarged 165 billion times. Each of its nine connected "atom pods," designed as fully functioning apartments, measures 60 feet in diameter, the uppermost perched 300 feet off the ground. At the time of construction, it contained the fastest elevator in Europe, and escalators that traveled the tubes between pods.

STATUS: The Atomium wasn't intended to survive long past the fair, but with it still standing decades later, a major restoration was undertaken in the early 2000s, including replacing the entire outer covering. Today it houses an exhibit devoted to the expo, an observation deck and a restaurant—and is proudly regarded as a major symbol of Belgium.

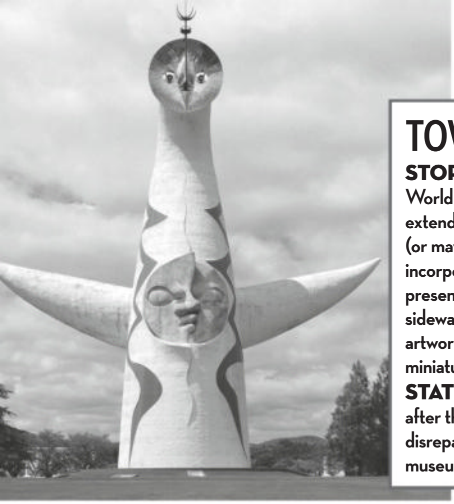


SPACE NEEDLE (2)

SPACE NEEDLE • Seattle

STORY: Constructed for the 1962 World's Fair, the Space Needle observation tower is the most iconic of structures resulting from a U.S. exposition. Playing off the event's "Living in the Space Age" motto, the elevator-equipped tower was topped with a multilevel crown that resembles a sci-fi movie UFO. At 605 feet high, it was at the time the tallest structure west of the Mississippi River, offering sweeping views of the city and the Cascade Mountains.

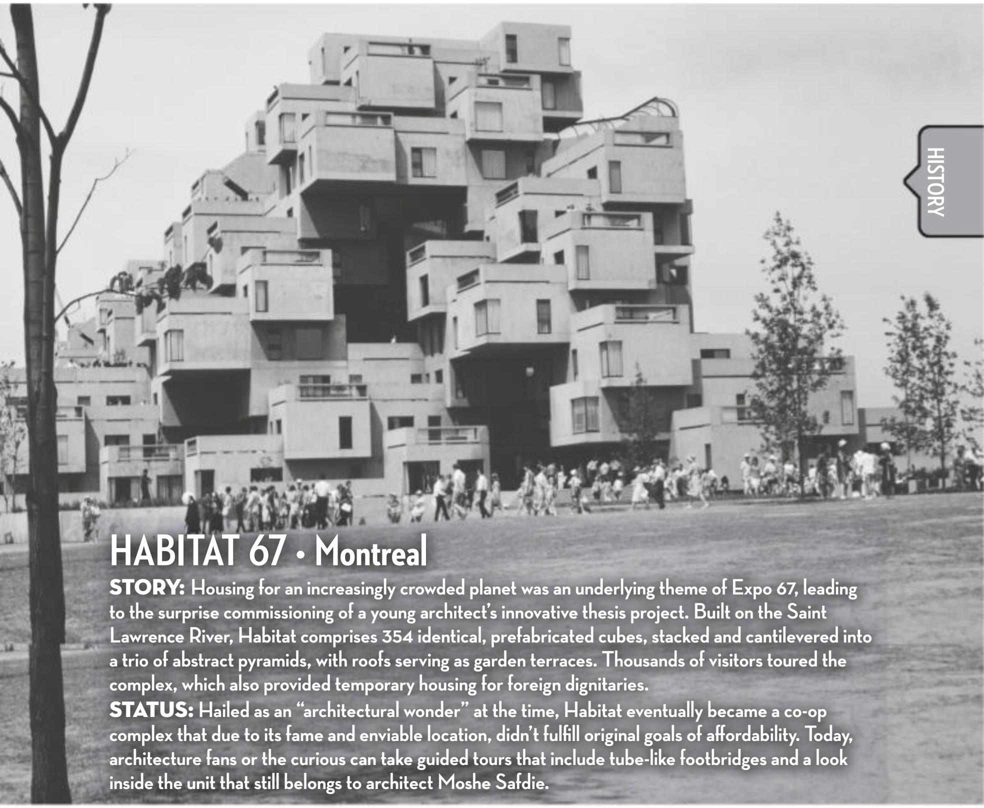
STATUS: Designated as a Seattle historic landmark in 1999, the Needle has been renovated several times, but remains a hugely popular attraction. Visitors today gaze through larger windows than when originally opened, and can savor the view at the Atmos Café or an upscale cocktail lounge.



TOWER OF THE SUN • Osaka

STORY: Designed by artist Taro Okamoto for the Japan World Exposition, aka Expo 70, the 230-foot concrete tower extended through the three levels of the main pavilion, its arms (or maybe wings?) spread wide in welcome. Three faces incorporated into the exterior represented the future, the present and the past; the hollow interior housed moving sidewalks that accessed other pavilion levels and the oversized artwork "Tree of Life" from which hung myriad objects and miniatures ranging from amoebas to dinosaurs.

STATUS: Though the pavilion was dismantled in the years after the expo, the tower remained and survived periods of disrepair until it was fully restored and reopened in 2018 as a museum and art space open to the public.

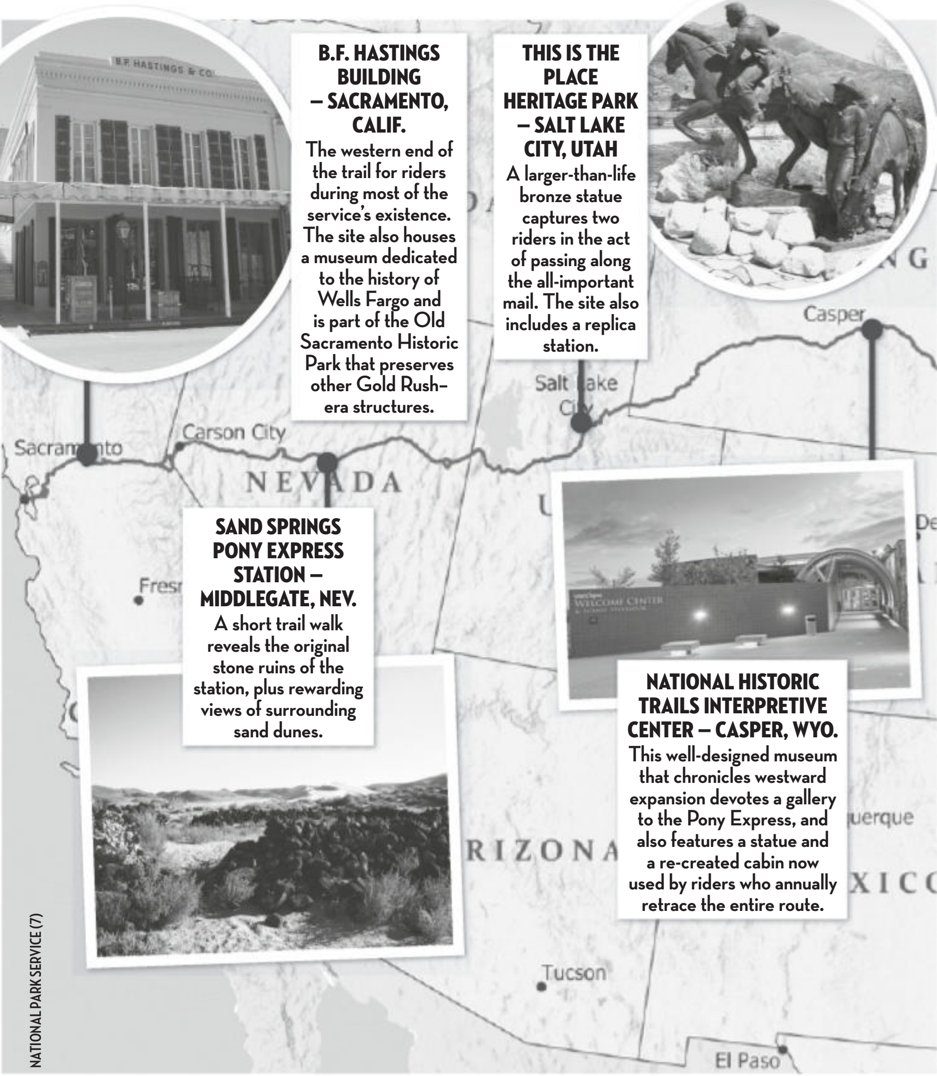


HABITAT 67 • Montreal

STORY: Housing for an increasingly crowded planet was an underlying theme of Expo 67, leading to the surprise commissioning of a young architect's innovative thesis project. Built on the Saint Lawrence River, Habitat comprises 354 identical, prefabricated cubes, stacked and cantilevered into a trio of abstract pyramids, with roofs serving as garden terraces. Thousands of visitors toured the complex, which also provided temporary housing for foreign dignitaries.

STATUS: Hailed as an "architectural wonder" at the time, Habitat eventually became a co-op complex that due to its fame and enviable location, didn't fulfill original goals of affordability. Today, architecture fans or the curious can take guided tours that include tube-like footbridges and a look inside the unit that still belongs to architect Moshe Safdie.

Express Route


B.F. HASTINGS & CO.
Sacramento
Carson City
NEVADA
Fresno
Salt Lake City
Casper
WELCOME CENTER
RIZONA
Tucson
El Paso
uerque
XICO

B.F. HASTINGS BUILDING – SACRAMENTO, CALIF.

The western end of the trail for riders during most of the service's existence. The site also houses a museum dedicated to the history of Wells Fargo and is part of the Old Sacramento Historic Park that preserves other Gold Rush–era structures.

THIS IS THE PLACE HERITAGE PARK – SALT LAKE CITY, UTAH

A larger-than-life bronze statue captures two riders in the act of passing along the all-important mail. The site also includes a replica station.

SAND SPRINGS PONY EXPRESS STATION – MIDDLEGATE, NEV.

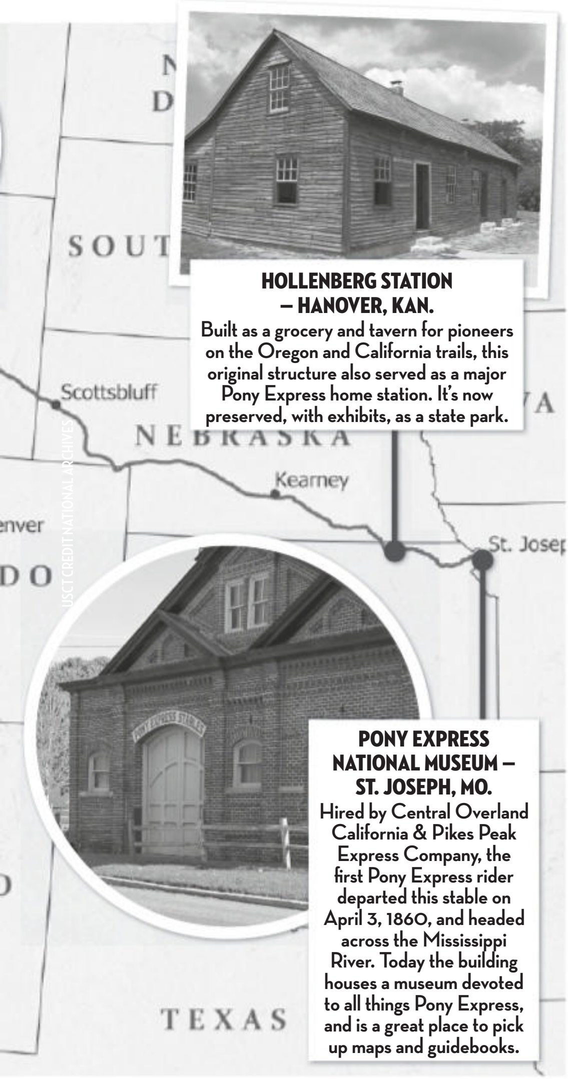
A short trail walk reveals the original stone ruins of the station, plus rewarding views of surrounding sand dunes.

NATIONAL HISTORIC TRAILS INTERPRETIVE CENTER – CASPER, WYO.

This well-designed museum that chronicles westward expansion devotes a gallery to the Pony Express, and also features a statue and a re-created cabin now used by riders who annually retrace the entire route.

NATIONAL PARK SERVICE (7)

THE DARING RIDERS OF THE PONY EXPRESS RISKED LIFE AND LIMB TO DELIVER MAIL ACROSS 2,000 MILES OF OLD WEST WILD FRONTIER FROM ST. LOUIS TO SACRAMENTO. FOLLOW IN THEIR HOOFPRINTS WITH THIS WESTWARD—BUT LESS PERILOUS—ITINERARY THAT TRACES THEIR HISTORY AND EXPLOITS.



USCT CREDIT NATIONAL ARCHIVES

HOLLENBERG STATION – HANOVER, KAN.
Built as a grocery and tavern for pioneers on the Oregon and California trails, this original structure also served as a major Pony Express home station. It's now preserved, with exhibits, as a state park.

PONY EXPRESS NATIONAL MUSEUM – ST. JOSEPH, MO.
Hired by Central Overland California & Pikes Peak Express Company, the first Pony Express rider departed this stable on April 3, 1860, and headed across the Mississippi River. Today the building houses a museum devoted to all things Pony Express, and is a great place to pick up maps and guidebooks.

TRIVIA DELIVERY

- Due to the galloping pace, fresh horses were supplied at relay stations 10 to 15 miles apart, and fresh riders took over about every 100 miles.

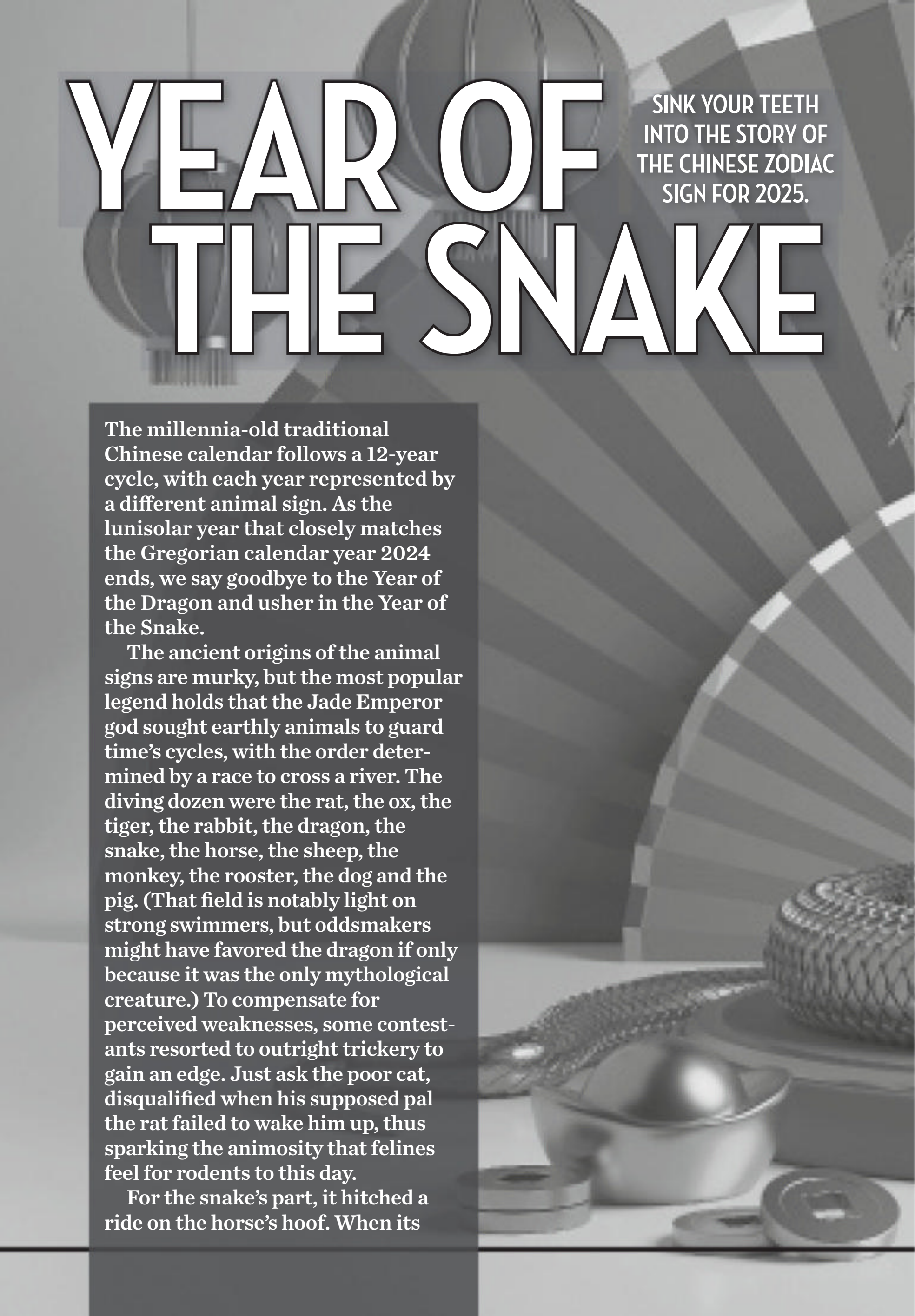
- Delivering on a route from Missouri to California in only 10 days (beating stagecoach delivery by 15 days) required an infrastructure of 184 stations, 80 riders and 400 horses.

- Riders carried mail in "mochillas," four-pocketed custom leather saddle coverings that fit over the entire saddle and quickly were transferred when the next rider was reached.

- Despite its place in Western lore, the Pony Express operated for only 19 months, when it was rendered obsolete by the completion of the first transcontinental telegraph line.

- During its brief operation, the Pony Express delivered about 35,000 letters along its route, and logged more than 500,000 miles.

- Although station staffers were vulnerable to bandit and Indian attacks, riders more often lost their lives to other hazards—drowning, freezing and, in one case, colliding with an ox at night.



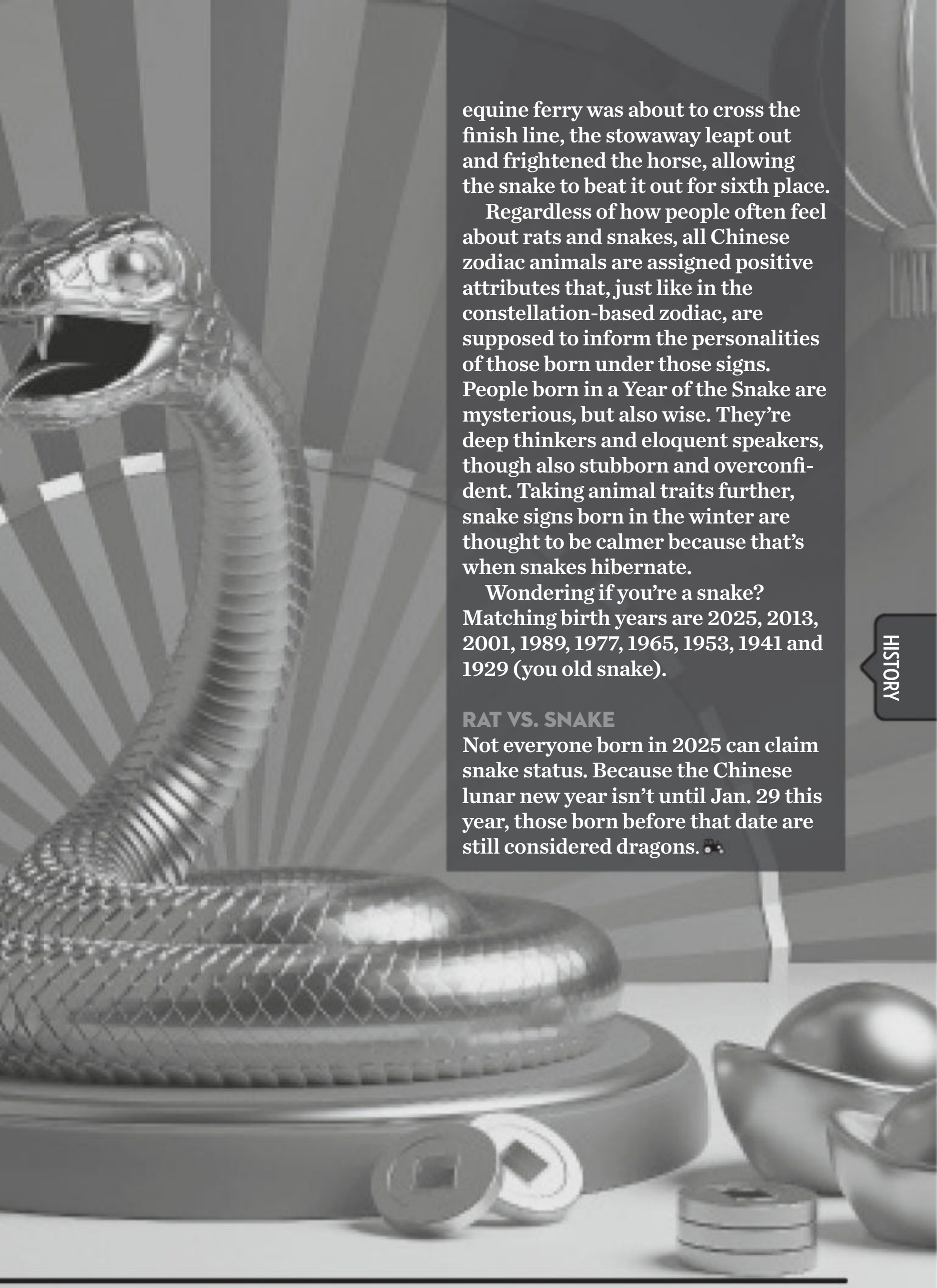
YEAR OF THE SNAKE

SINK YOUR TEETH INTO THE STORY OF THE CHINESE ZODIAC SIGN FOR 2025.

The millennia-old traditional Chinese calendar follows a 12-year cycle, with each year represented by a different animal sign. As the lunisolar year that closely matches the Gregorian calendar year 2024 ends, we say goodbye to the Year of the Dragon and usher in the Year of the Snake.

The ancient origins of the animal signs are murky, but the most popular legend holds that the Jade Emperor god sought earthly animals to guard time's cycles, with the order determined by a race to cross a river. The diving dozen were the rat, the ox, the tiger, the rabbit, the dragon, the snake, the horse, the sheep, the monkey, the rooster, the dog and the pig. (That field is notably light on strong swimmers, but oddsmakers might have favored the dragon if only because it was the only mythological creature.) To compensate for perceived weaknesses, some contestants resorted to outright trickery to gain an edge. Just ask the poor cat, disqualified when his supposed pal the rat failed to wake him up, thus sparking the animosity that felines feel for rodents to this day.

For the snake's part, it hitched a ride on the horse's hoof. When its



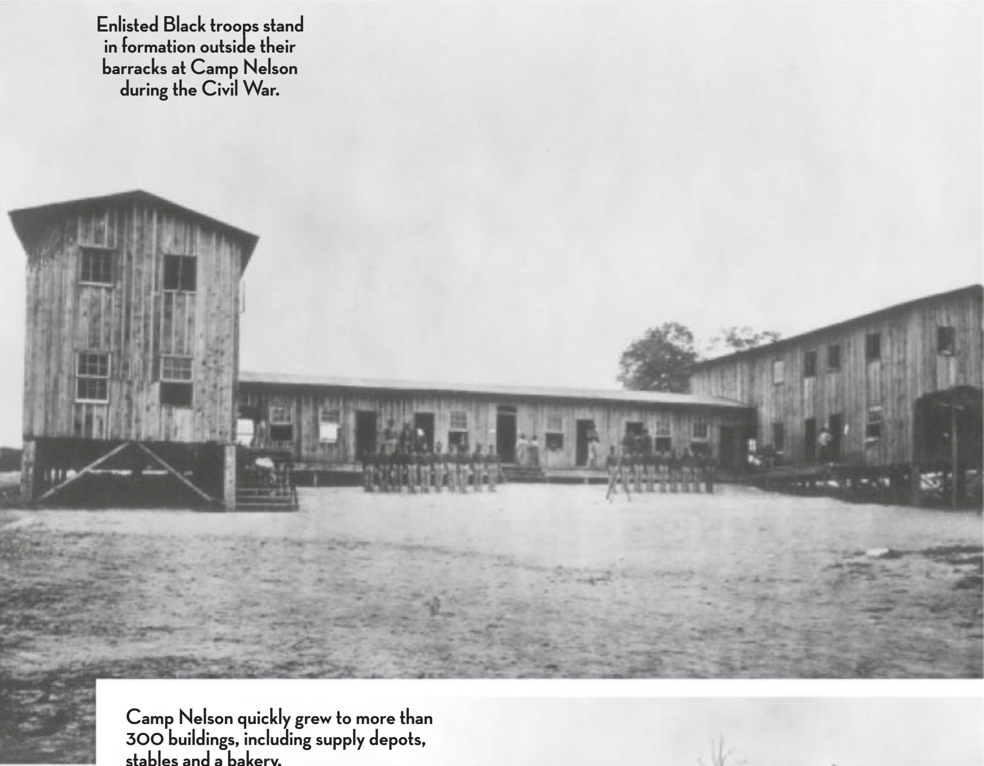
equine ferry was about to cross the finish line, the stowaway leapt out and frightened the horse, allowing the snake to beat it out for sixth place.

Regardless of how people often feel about rats and snakes, all Chinese zodiac animals are assigned positive attributes that, just like in the constellation-based zodiac, are supposed to inform the personalities of those born under those signs. People born in a Year of the Snake are mysterious, but also wise. They're deep thinkers and eloquent speakers, though also stubborn and overconfident. Taking animal traits further, snake signs born in the winter are thought to be calmer because that's when snakes hibernate.

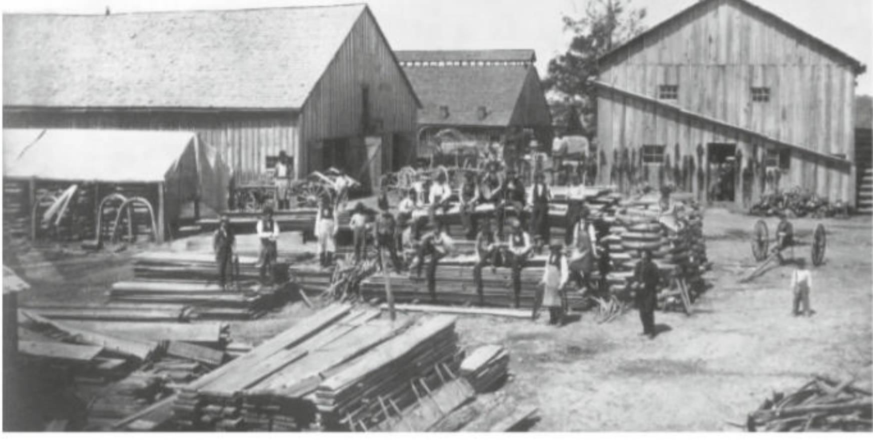
Wondering if you're a snake? Matching birth years are 2025, 2013, 2001, 1989, 1977, 1965, 1953, 1941 and 1929 (you old snake).

RAT VS. SNAKE

Not everyone born in 2025 can claim snake status. Because the Chinese lunar new year isn't until Jan. 29 this year, those born before that date are still considered dragons.



Enlisted Black troops stand in formation outside their barracks at Camp Nelson during the Civil War.



Camp Nelson quickly grew to more than 300 buildings, including supply depots, stables and a bakery.

Freedom's Fight at Camp Nelson

ONE OF THE COUNTRY'S NEWEST NATIONAL MONUMENTS PRESERVES THE STORY OF HOW A CIVIL WAR MILITARY FORTIFICATION BECAME A BEACON OF HOPE.

NATIONAL ARCHIVES

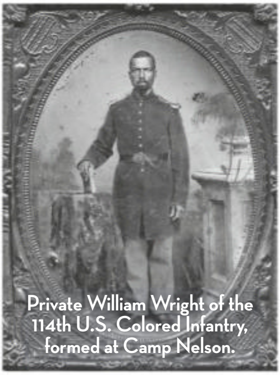
As the Civil War raged in the spring of 1863, U.S. Army Major General Ambrose Burnside took command of the reorganized Department of the Ohio, comprising the states of Ohio, Michigan, Indiana, Illinois, Wisconsin and the portion of Kentucky east of the Tennessee River. At this critical time in the conflict, with no clear sense of which side would prevail, Burnside's objective was to cross the border and capture East Tennessee, a mountainous region with a sizable pro-Union population that had endured Confederate control since the start of the war in 1861.

On April 29, Burnside ordered a search committee to identify a location that would allow him to consolidate troops and supplies in central Kentucky. Named for a recently slain general, Camp Nelson was established along the Lexington-Danville Turnpike in a protective position near the only bridge across the Kentucky River upriver from the state capital of Frankfort. In addition to functioning as a fortified supply depot and forward operating base, the camp also would serve as a hospital, recruiting post and refugee camp for Unionists fleeing East Tennessee and the surrounding region. Soon, Camp Nelson encompassed approximately 4,000 acres, with an 800-acre core containing more than 300 buildings and hundreds of tents that housed a commissary depot, ordnance depot, prison, stables and corrals, bakery and steam-driven waterworks that pumped water up from the river to a 500,000-gallon reservoir. An elaborate system of earthen fortifications, primarily constructed by enslaved African-Americans pressed into duty by the Federal military, helped protect the base.

FREEDOM THROUGH SERVICE

Between August and December 1863, Camp Nelson fulfilled its original mission by supplying and serving as a forward operating base for the Army of the Ohio. Burnside's campaign to liberate East Tennessee was a major success, defeating Confederate forces, capturing Knoxville, and securing U.S. Army control of the region for the rest of the war. With its purpose seemingly complete, there was discussion among military authorities about closing the camp, but by April 1864, its primary purpose evolved.

From its establishment, Camp Nelson served as a recruiting station for white regiments. In total, seven



Private William Wright of the 114th U.S. Colored Infantry, formed at Camp Nelson.

LIBRARY OF CONGRESS

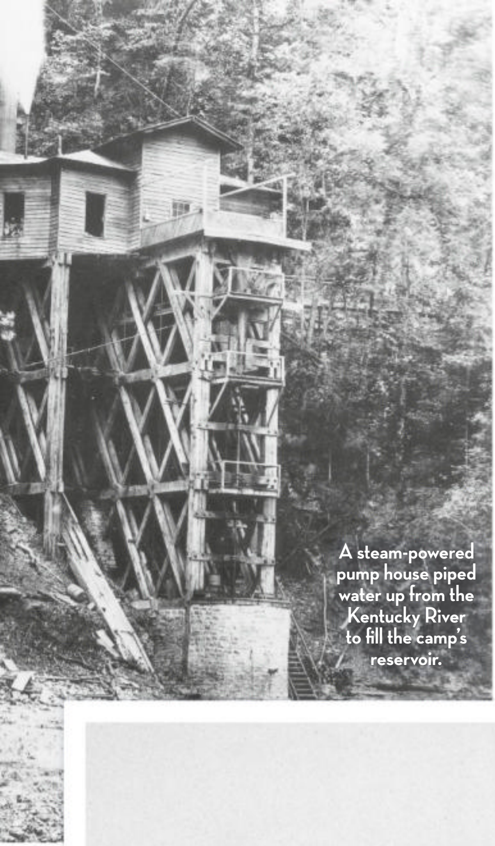
UNIV. OF KENTUCKY

East Tennessee and Kentucky units were entirely or partially organized at the base in 1863. However, the U.S. government's decision to make emancipation a war aim eroded white support and recruitment in Kentucky by 1864. Consequently, the Federal military gradually authorized the recruitment of African-Americans in the state, allowing enslaved men to secure their freedom through the act of enlistment. By the early summer of 1864, any restrictions on Black enlistment had been lifted and orders were issued to establish eight training centers for U.S. Colored Troops in Kentucky. Camp Nelson was one of those sites.

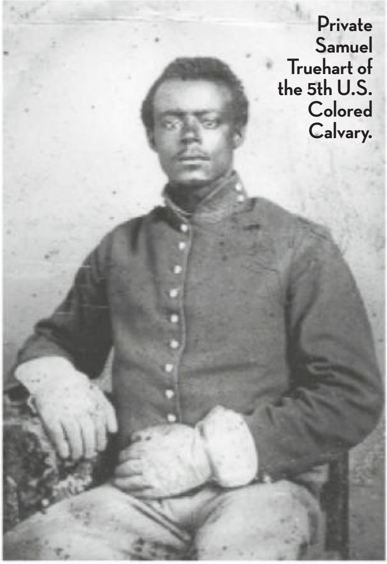
The new Federal policies resulted in a flood of Black recruits making their way to Camp Nelson. June to October 1864 were the most significant months, with thousands of men joining the army, but Black men would continue to self-emancipate by enlisting at Camp Nelson well into 1865. In total, eight regiments of USCTs were organized at Camp Nelson: four infantry, two cavalry, and two heavy artillery units. Camp Nelson was the largest of USCT recruitment centers in Kentucky and the third largest in the entire nation. By the time the 13th Amendment was finally ratified on Dec. 6, 1865, ending slavery throughout the U.S., a total of 23,703 Black men had enlisted as soldiers in Kentucky, with over 10,000 at Camp Nelson.

Many of the men pouring into Camp Nelson to enlist were accompanied by parents, wives and children, all also seeking freedom. As early as 1861, freedom seekers who reached Union lines were considered "contraband of war" under Federal policy and granted freedom. Army bases such as Camp Nelson offered some sense of protection to formerly enslaved people in Confederate states under Union control and marked an important first step toward life after slavery. However, individuals held as slaves in neutral Kentucky in 1864 were in the tragic position of still being legally owned by white Kentuckians who were not in rebellion against the U.S. government.

While enlisting provided a clear path to emancipation for eligible men, any enslaved person from Kentucky who arrived at Camp Nelson but was unable to serve was expected to leave the camp and return to enslavement. This solution was neither feasible nor desired by the freedom seekers, who set up makeshift refugee camps. Repeatedly, official orders were issued to remove these civilians. During the November 1864 expulsion, Federal

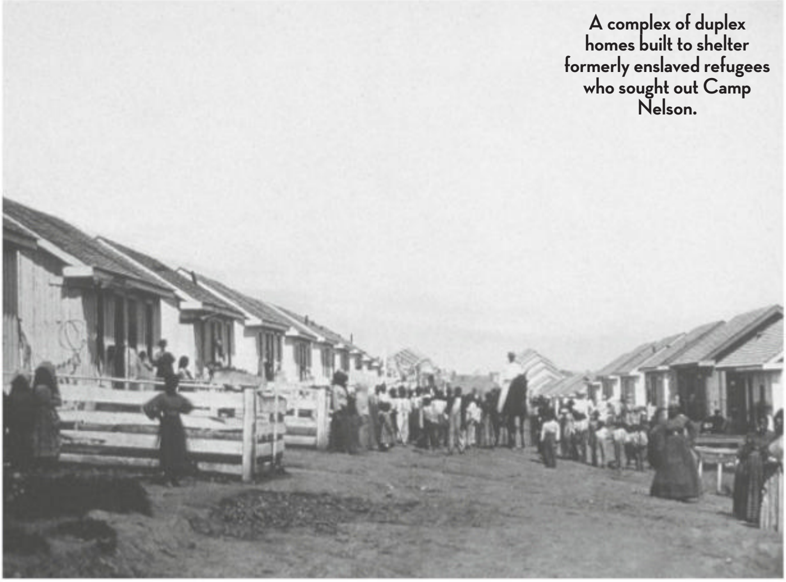


A steam-powered pump house piped water up from the Kentucky River to fill the camp's reservoir.

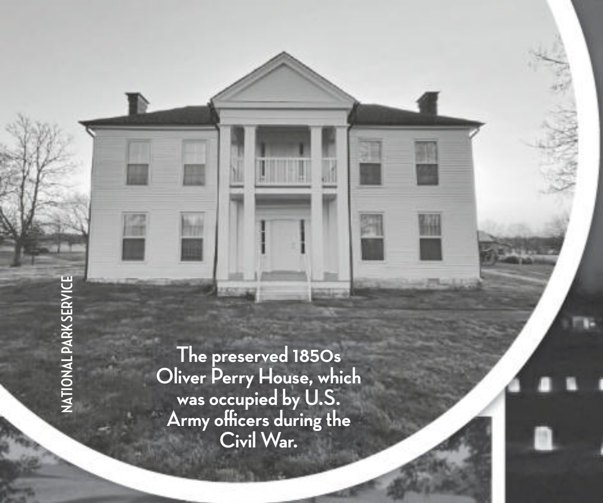


Private Samuel Truehart of the 5th U.S. Colored Calvary.

DAVID BROWN



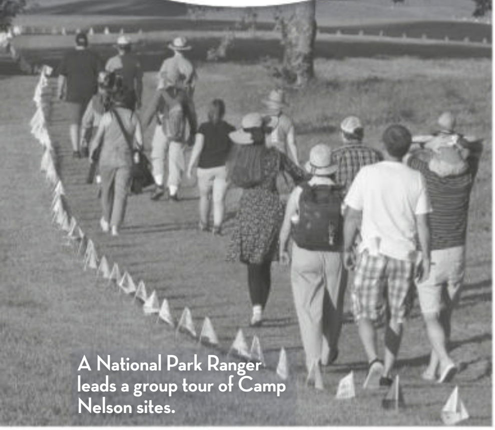
A complex of duplex homes built to shelter formerly enslaved refugees who sought out Camp Nelson.



NATIONAL PARK SERVICE

The preserved 1850s Oliver Perry House, which was occupied by U.S. Army officers during the Civil War.

NATIONAL PARK SERVICE



A National Park Ranger leads a group tour of Camp Nelson sites.

soldiers forcibly expelled more than 400 women and children from the camp and destroyed their huts. Freezing temperatures and a winter storm resulted in more than 100 displaced refugees dying of illness and exposure. This tragedy garnered national media attention and generated public outcry. Today, a memorial obelisk on Camp Nelson's grounds honors these lost lives.

BEYOND THE WAR

A few weeks after the expulsion, the U.S. Army reversed its policy toward enslaved refugees and began construction on the government-sponsored "Home for Colored Refugees" at Camp Nelson. It initially included a communal mess hall, a school, barracks for single women and the sick, and duplex family cottages.

Refugees who had been turned away or forced out of the camp were now allowed to resettle in the newly constructed refugee home, officially opened in January 1865. Although wives and children of the enlisted men still were not legally emancipated, they were legally entitled to sanctuary. Finally, on March 3, 1865, an act of Congress officially emancipated the wives, children and mothers of U.S. Colored Troops. This provided legal protection for the refugees at Camp

A memorial obelisk honors lives that were lost when refugees were forced out of the camp during winter.

Nelson and an additional incentive for Black men to enlist in the Federal military.

During the summer of 1866, more than a year after the end of the Civil War, the War Department began the process of closing Camp Nelson. A small number of residents refused to be displaced and a small village called Ariel grew out of the refugee home site. While there are no present-day buildings that date to the Refugee Home era, the modern hamlet of Hall contains several historic buildings and a small population that includes descendants of Camp Nelson refugees and soldiers.

Established by Presidential Proclamation 9811 on Oct. 26, 2018, Camp Nelson National Monument, administered by the National Park Service, aims to protect the rich history of this important chapter in Civil War and American history. The site contains remnants of earthen fortifications, building foundations, springs, and the only surviving structure associated with Camp Nelson's Civil War history, the 1855 Greek Revival-style Oliver Perry House that was commandeered for use as an officers' quarters. There is also a reconstructed barracks and a visitor center with exhibits. Camp Nelson represents the courage of formerly enslaved African-Americans to secure their own emancipation and control their futures by contributing to the destruction of slavery. It also illustrates the nation's struggle to define the meaning of freedom during and after the Civil War.

Monumental States

A COAST-TO-COAST LIST OF U.S. NATIONAL MONUMENTS.

From Acadia to Zion, our amazing national parks deserve all the attention they garner. Somewhat in their shadow, though, exist double the number of protected sites designated by the president and Congress as National Monuments. They're as varied as they are awe-inspiring, including pristine wilds, caves, fossil beds, historic homes, and plenty of old forts. In other words, a great excuse for a monumental road trip.

ALABAMA

- Birmingham Civil Rights National Monument
- Freedom Riders National Monument
- Russell Cave

ALASKA

- Admiralty Island
- Aleutian Islands World War II—*site of a bloody battle between U.S. and Japanese forces, the only one fought on what is now American soil*
- Cape Krusenstern
- Mount Aniakchak
- Misty Fjords

AMERICAN SOMOA

- Rose Atoll Marine National Monument

ARIZONA

- Agua Fria—*450 Native American structures, including 100-room pueblos*
- Baaj Nwaavjo I'tah Kukveni (Ancestral Footprints of the Grand Canyon)
- Canyon de Chelly
- Casa Grande Ruins
- Chiricahua National Monument
- Grand Canyon–Parashant
- Hohokam Pima
- Ironwood Forest
- Montezuma Castle
- Navajo cliff dwellings
- Organ Pipe Cactus
- Pipe Spring
- Sonoran Desert
- Sunset Crater Volcano
- Tonto National Monument
- Tuzigot National Monument
- Vermilion Cliffs
- Walnut Canyon
- Wupatki National Monument

CALIFORNIA

- Berryessa Snow Mountain
- Cabrillo National Monument–*landing site of Juan Rodriguez Cabrillo at San Diego Bay in 1542*
- California Coastal National Monument
- Carrizo Plain
- Castle Mountains
- César E. Chavez National Monument
- Devils Postpile
- Ford Ord
- Giant Sequoia
- Lava Beds National Park
- Mojave Trails
- Muir Woods
- Saint Francis Dam Disaster National Monument
- San Gabriel Mountains
- Sand to Snow National Monument—*extends from Mojave and Sonoran deserts up the San Bernardino Mountains*
- Santa Rosa and San Jacinto Mountains
- Tule Lake

COLORADO

- Browns Canyon
- Camp Hale (see accompanying story)
- Canyon of the Ancients
- Chimney Rock
- Colorado National Monument—*sheer-walled canyons cut into sandstone rock formations*
- Dinosaur National Monument
- Florissant Fossil Beds
- Hovensweep—*Native American ruins that extend into Utah*
- Yucca House National Monument

DISTRICT OF COLUMBIA

- Belmont-Paul Women's Equality National Monument
- President Lincoln and Soldiers' Home

FLORIDA

- Castillo de San Marcos
- Fort Matanzas

GEORGIA

- Fort Frederica
- Fort Pulaski

GUAM

- Marianas Trench Marine National Monument

HAWAII

- Pacific Remote Islands Marine National Monument
- Papahanaumokuakea Marine National Monument

IDAHO

- Craters of the Moon—*lava fields that include an 800-foot-deep rift crack, the deepest on Earth*
- Hagerman Fossil Beds

IOWA

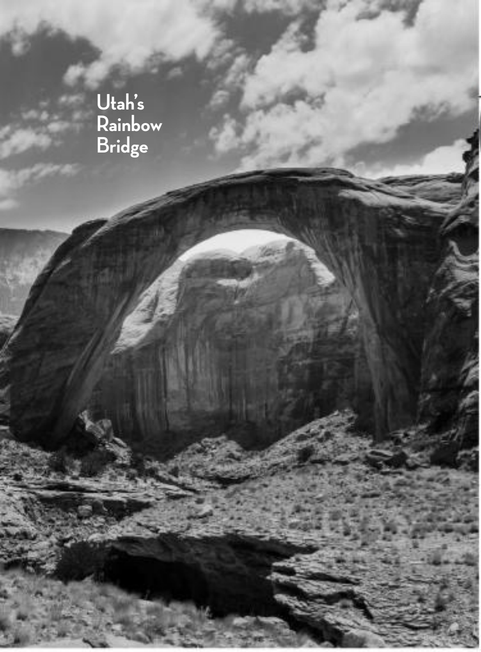
- Effigy Mounds

KENTUCKY

- Camp Nelson
- Mill Springs Battlefield

LOUISIANA

- Poverty Point


Utah's Rainbow Bridge

STATE WITH MOST NATIONAL MONUMENTS
With Native American sites galore, Arizona's 19 monuments beat out neighboring California by two.

MAINE
- Katahdin Woods and Waters

MARYLAND
- Fort McHenry
- Harriet Tubman Underground Railroad National Monument

MASSACHUSETTS
- Northeast Canyons and Seamounts Marine National Monument—*the first fully protected marine reserve in the Atlantic*

MINNESOTA
- Grand Portage—*former major frontier fur-trading site*
- Pipestone National Monument

MISSISSIPPI
- Emmett Till and Mamie Till-Mobley National Monument (shared with Illinois)
- Medgar and Myrlie Evers Home

MISSOURI
- George Washington Carver boyhood home

MONTANA
- Little Bighorn Battlefield
- Pompreys Pillar
- Upper Missouri River Breaks

NEBRASKA
- Agate Fossil Beds
- Scotts Bluff

NEVADA
- Avi Kwa Ame (Spirit Mountain)
- Basin and Range
- Gold Butte
- Tule Springs Fossil Beds

NEW JERSEY
- Statue of Liberty (shared with New York)

NEW MEXICO
- Aztec Ruins
- Bandelier pueblos site
- Capulin Volcano—*rising from rolling grasslands, a hike-friendly cone volcano with a crater 400 feet deep*
- El Malpais lava fields
- El Morro sandstone promontory
- Fort Union
- Gila Cliff Dwellings
- Kahikatea Tent Rocks
- Organ Mountains-Desert Peaks
- Petroglyph National Monument
- Prehistoric Trackways
- Rio Grande del Norte
- Salinas Pueblo Missions

NEW YORK
- African Burial Ground
- Castle Clinton
- Fort Stanwix
- Governors Island
- Stonewall National Monument

OHIO
- Charles Young Buffalo Soldiers National Monument

OREGON
- Cascade-Siskiyou (extends into California)
- John Day Fossil Beds
- Newberry National Volcanic Monument
- Oregon Caves

SOUTH DAKOTA
- Jewel Cave

TEXAS
- Alibates Flint Quarries
- Castner Range
- Military Working Dog Teams memorial
- Waco Mammoth National Monument—*fossils of 24 mammoths thought to have died in a flood*

U.S. VIRGIN ISLANDS
- Buck Island Reef
- Virgin Islands Coral Reef

UTAH
- Bears Ears Buttes
- Cedar Breaks
- Grand Staircase-Escalante
- Jurassic National Monument
- Natural Bridges
- Rainbow Bridge
- Timpanogos Cave

VIRGINIA
- Booker T. Washington National Monument
- Fort Monroe
- George Washington Birthplace

WASHINGTON
- Hanford Reach
- Mount St. Helens National Volcanic Monument
- San Juan Islands

WYOMING
- Devils Tower
- Fossil Butte

STATES WITH NO NATIONAL MONUMENTS

ARKANSAS
CONNECTICUT
DELAWARE
ILLINOIS
INDIANA
KANSAS
MICHIGAN
NEW HAMPSHIRE
NORTH CAROLINA
NORTH DAKOTA
OKLAHOMA
PENNSYLVANIA
RHODE ISLAND
SOUTH CAROLINA
TENNESSEE
VERMONT
WEST VIRGINIA
WISCONSIN

weather

for people who know which way the wind blows

How Are Seasonal Forecasts Made?

By Dr. Ryan Truchelut, WeatherTiger LLC (weathertiger.substack.com)

Shakespeare once wrote that "a wise man knows himself to be a fool." I'm meteorologist Ryan Truchelut of the weather consulting firm WeatherTiger, and I believe that seasonal forecasting is done best with humility, respect for the natural world, and a touch of humor. As you explore our predictions for 2025 temperatures and precipitation, I want you to understand how such projections are made, and what they really mean.

Let's be clear what we're *not* forecasting: local weather conditions on a particular day or week of 2025. With due respect to sunspots, fuzzy caterpillars and bushy squirrel tails, the atmosphere's chaotic nature prevents the skillful prediction of day-to-day weather more than about 10 days out. The accuracy of forecasts beyond that horizon is worse than random guessing.

However, big-picture temperature and precipitation deviations over months and seasons can be forecast with some success. The National Weather Service makes seasonal U.S. temperature and precipitation projections extending more than a year into the future using the output of complex climate models.

WeatherTiger's methods are a little simpler, but still based on the idea that some persistent ocean and atmospheric patterns exercise predictable influences on long-range temperature and precipitation outcomes. To make a seasonal forecast, we need to know what's happening in the ocean and atmosphere now, and what happened in history. For historical data, we use what's known as a "reanalysis," essentially a best guess of what the atmosphere looked like in the past made by applying computer modeling to historical weather records. Additionally, satellite and observational tools provided by the NWS take up-to-date snapshots of the ocean and atmosphere.

We then compare past and present data to identify historical analogs in which patterns influencing upcoming weather best match current conditions. Forecast ranges are then made for the nine NWS climate regions of the continental United States. While we report a "most likely" value for regional temperature and precipitation anomalies, that number should be interpreted like odds. If the forecast is +1.5°F above normal, there might be a 65 percent chance of warmer- and a 35 percent chance of cooler-than-usual temperatures.

Enjoy these forecasts as a guide to the seasons of a tumultuous 2025, but don't take them too literally. After all, there are more things in heaven and earth than even foolish meteorologists dream of.

2025 Seasonal Temperature & Precipitation Outlook

By Dr. Ryan Truchelut, WeatherTiger LLC

The 2020s have been a decade of weather extremes in the continental United States. In general, summers have been hotter than average, though ample rainfall has kept the lid on sustained extreme heat in the Midwest. Winters have been extremely mild and lacking in much in the way of, well, winter in the eastern and central U.S., and variable but more severe and snowy in the western U.S. The key reason and a major component of the 2025 outlook is the persistence of La Niña events in the Pacific. La Niña's dominance of recent global weather patterns sets the tone for a 2025 likely to emulate the recent past, with a few twists driven by continued above average Atlantic surface temperatures.

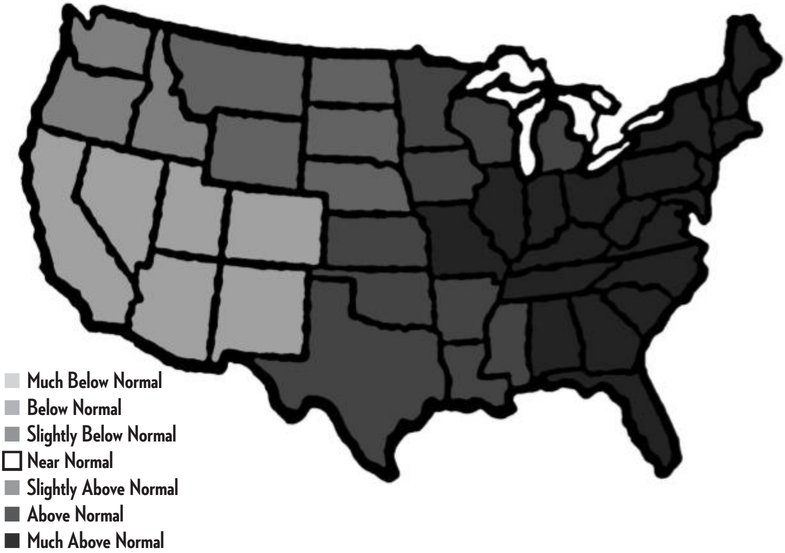
WINTER 2024-25 likely will be notably mild in much of the eastern and central U.S. due to La Niña. The typical Southeastern U.S. ridge that characterizes La Niña winters should lead to much milder than normal temperatures east of the Mississippi and in the Southern Plains. The Pacific's subtropical jet stream will be weaker and displaced north of average, meaning a very dry but cold winter in central and southern California and Southwest, a cool and wet winter in the Pacific Northwest, and below average precipitation and snow chances in the Sun Belt and East Coast.

SPRING 2025 climate models suggest La Niña will dissipate, though lingering influence is likely to keep moisture to a premium from California to the Carolinas. These regions are likely to see a slightly drier and warmer than normal spring. As La Niña weakens, the jet stream will likely become more amplified and active, so a wet tilt in the Great Lakes, Ohio Valley and Northeast are favored, potentially with an active severe weather season in the Lower Midwest. The Pacific Northwest and Mountain West will see cool temps and normal to slightly above normal rainfall.

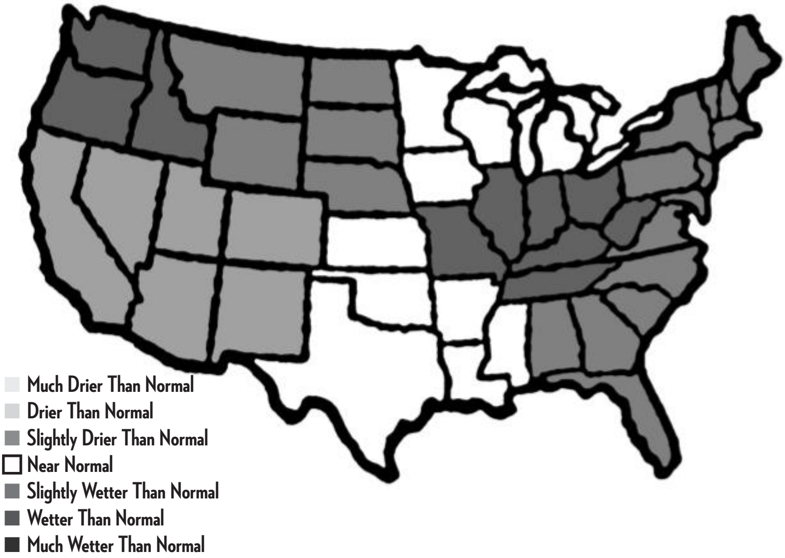
SUMMER 2025 comes to a fork in the road, with some indications of a redeveloping La Niña and others showing neither an El Niño nor La Niña. Forecast confidence is low, but WeatherTiger's modeling suggests a tilt toward La Niña. Summers in which this shift is ongoing tend to have seasonable temperature and precipitation from the Southwest into the lower Mid-Atlantic, but much warmer than average conditions in the Great Lakes, Northern Plains, Upper Midwest and New England with elevated potential for "heat dome" regimes.

FALL 2025 also is dependent on La Niña evolution. Our guidance suggests a continued warm bias, warmest relative to average in the Southern Plains as the tendency for summer ridging over the northern tier retreats south. A pattern anchored by south-central high pressure also lacks moisture sources, so most of the country will be drier than average, particularly in the Plains and Great Lakes.
The Southeast and East Coast may see closer to average rainfall due to tropical influences, particularly given the likelihood of another busy Atlantic hurricane season.

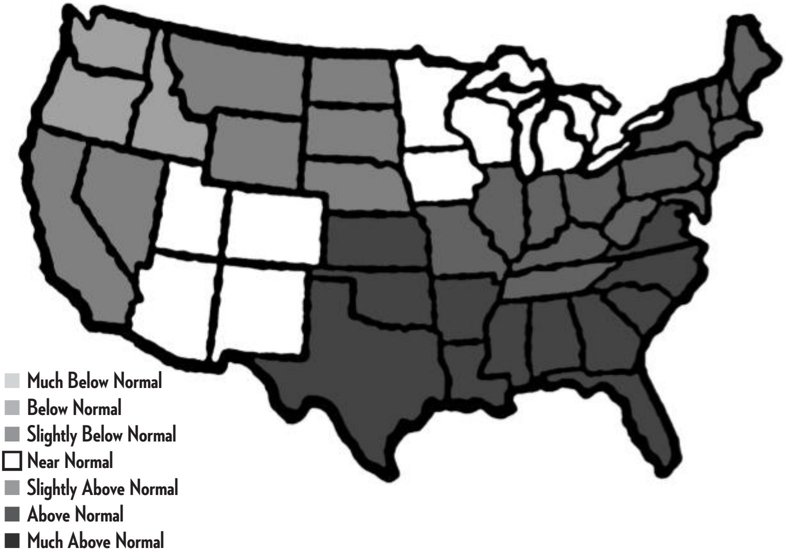
WINTER 2025 TEMPERATURE


■ Much Below Normal
■ Below Normal
■ Slightly Below Normal
□ Near Normal
■ Slightly Above Normal
■ Above Normal
■ Much Above Normal

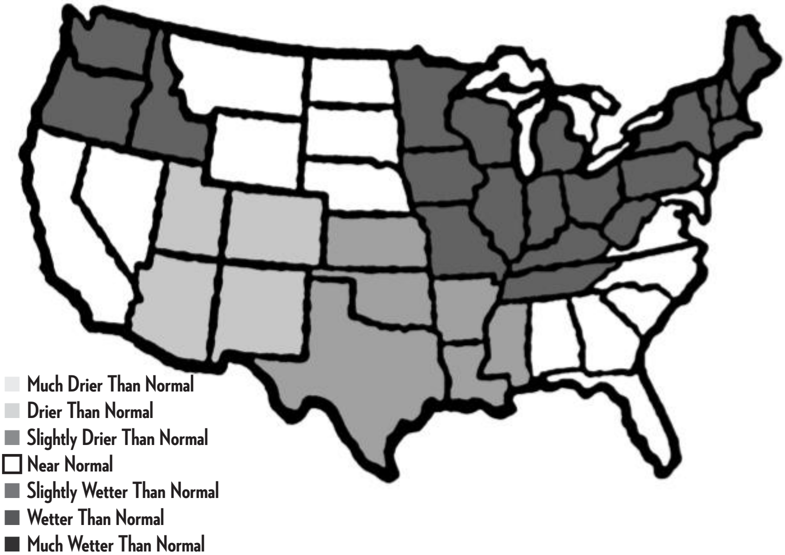
WINTER 2025 PRECIPITATION


■ Much Drier Than Normal
■ Drier Than Normal
■ Slightly Drier Than Normal
□ Near Normal
■ Slightly Wetter Than Normal
■ Wetter Than Normal
■ Much Wetter Than Normal

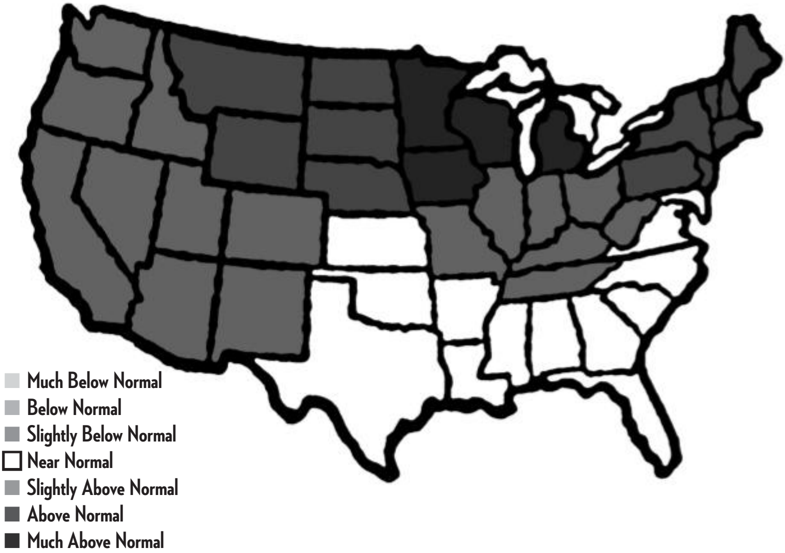
SPRING 2025 TEMPERATURE


Much Below Normal
Below Normal
Slightly Below Normal
Near Normal
Slightly Above Normal
Above Normal
Much Above Normal

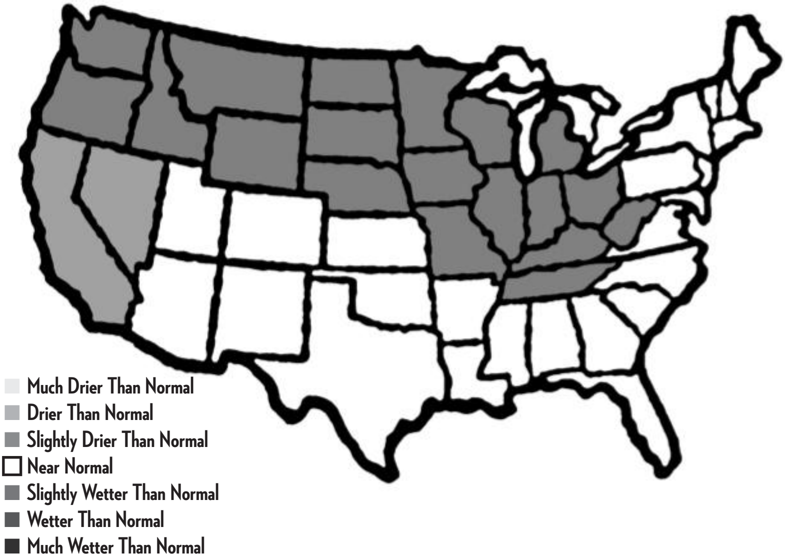
SPRING 2025 PRECIPITATION


Much Drier Than Normal
Drier Than Normal
Slightly Drier Than Normal
Near Normal
Slightly Wetter Than Normal
Wetter Than Normal
Much Wetter Than Normal

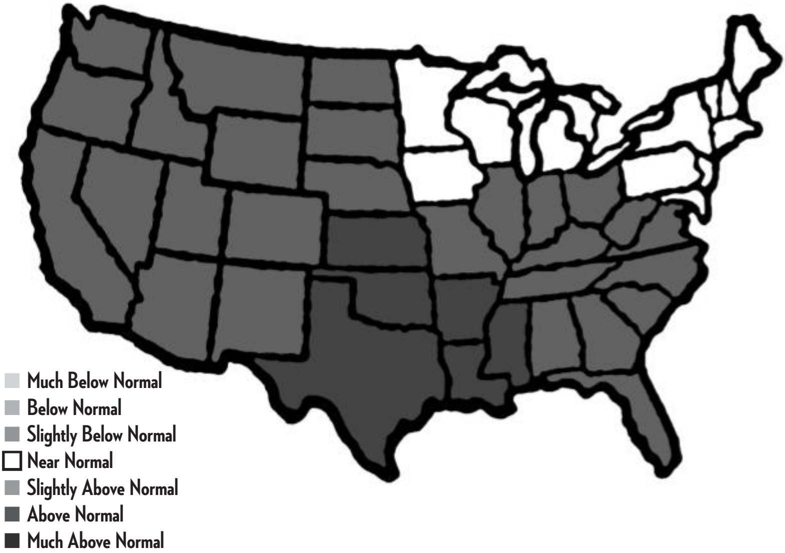
SUMMER 2025 TEMPERATURE


Much Below Normal
Below Normal
Slightly Below Normal
☐ Near Normal
Slightly Above Normal
Above Normal
Much Above Normal

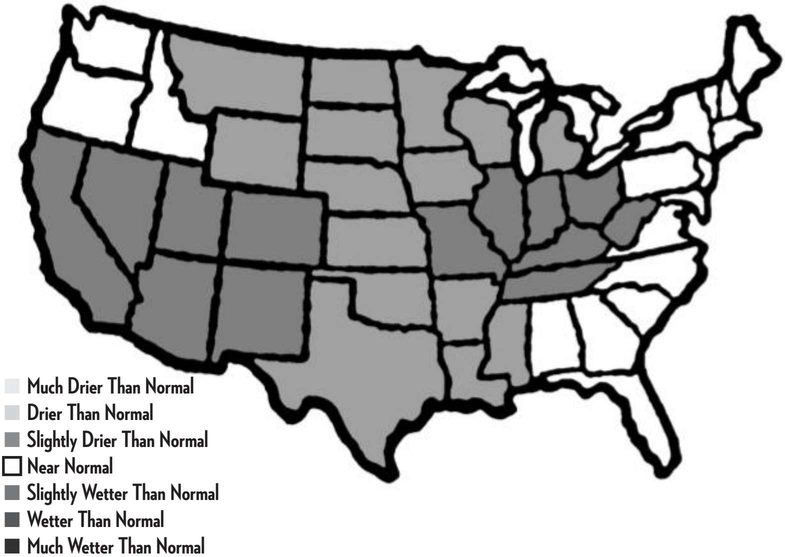
SUMMER 2025 PRECIPITATION


Much Drier Than Normal
Drier Than Normal
Slightly Drier Than Normal
☐ Near Normal
Slightly Wetter Than Normal
Wetter Than Normal
Much Wetter Than Normal

FALL 2025 TEMPERATURE


Much Below Normal
Below Normal
Slightly Below Normal
Near Normal
Slightly Above Normal
Above Normal
Much Above Normal

FALL 2025 PRECIPITATION


Much Drier Than Normal
Drier Than Normal
Slightly Drier Than Normal
Near Normal
Slightly Wetter Than Normal
Wetter Than Normal
Much Wetter Than Normal

Need accurate, dependable hurricane forecasts?

WEATHERTIGER

weathertiger.substack.com

WeatherTiger's Hurricane Watch newsletter gives our readers:

» Full coverage of all hurricane threats

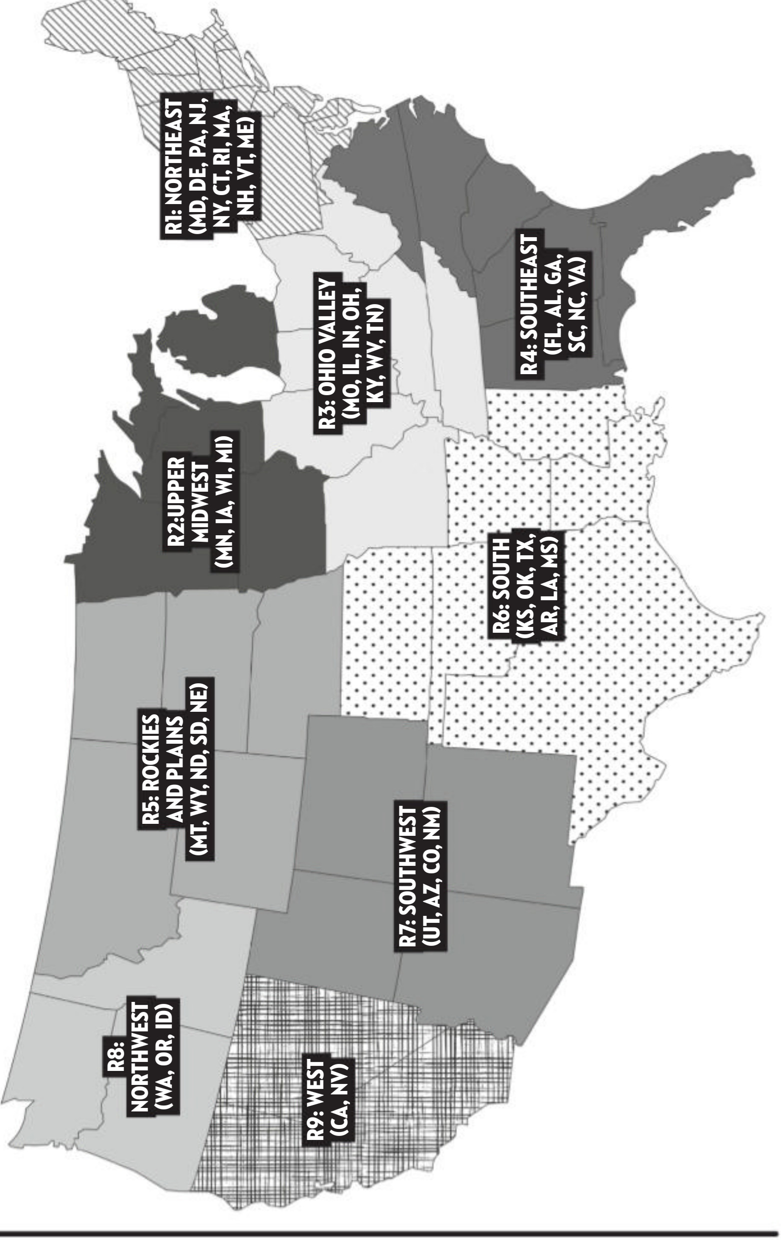
» No-hype daily tropical briefings

» Exclusive real-time seasonal forecasts

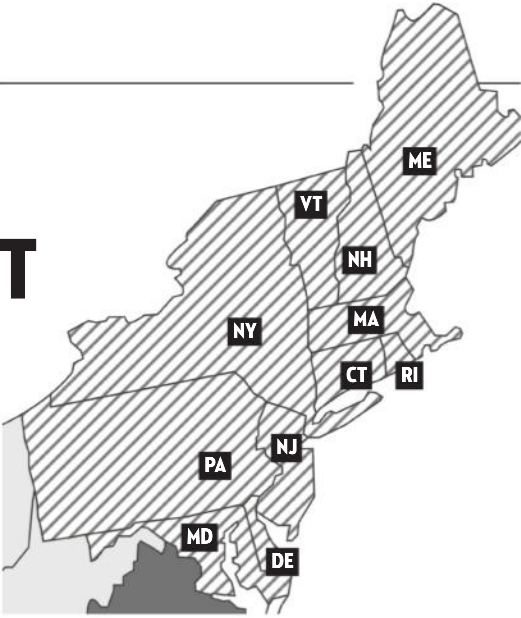
» A signature twist of dad humor

Scan the code to read our 2025 outlook and sign up for free!

WEATHER REGIONS


R1: NORTHEAST (MD, DE, PA, NJ, NY, CT, RI, MA, NH, VT, ME)
R2:UPPER MIDWEST (MN, IA, WI, MI)
R3: OHIO VALLEY (MO, IL, IN, OH, KY, WV, TN)
R4: SOUTHEAST (FL, AL, GA, SC, NC, VA)
R5: ROCKIES AND PLAINS (MT, WY, ND, SD, NE)
R6: SOUTH (KS, OK, TX, AR, LA, MS)
R7: SOUTHWEST (UT, AZ, CO, NM)
R8: NORTHWEST (WA, OR, ID)
R9: WEST (CA, NV)

2025 FORECAST
REGION 1 NORTHEAST



In Brief: Home to the world record for the highest wind speed ever observed, the Northeast U.S. is a land of weather extremes. In 2025, the long-term forecast favors unseasonable warmth, particularly in the upcoming winter. Snow lovers in the coastal Northeast have suffered through a multiyear snow drought, which is likely to continue through February; however, late-season nor'easter prospects improve in March when slightly below normal temperatures and above normal precipitation are favored. Spring looks generally mild and tilts wet, with summer temperatures also warmer than normal. Fall is likely to bring near normal conditions, albeit with colder anomalies and a chance of early hard freezes heading into late October and November.

January: Warmer than average temperatures strongly favored; below normal precipitation slightly favored. Most likely mean temperature 28°F, above normal by 4.5°F; most likely mean precipitation 2.5 inches, drier than normal by 0.8 inch.

February: Warmer than average temperatures strongly favored; above normal precipitation slightly favored. Most likely mean temperature 30°F, above normal by 4.5°F; most likely mean precipitation 3.1 inches, wetter than normal by 0.4 inch.

March: Close to average temperatures favored; above normal precipitation slightly favored. Most likely mean temperature 33°F, below normal by 0.5°F; most likely mean precipitation 3.9 inches, wetter than normal by 0.5 inch.

April: Warmer than average temperatures favored; near normal precipitation favored. Most likely mean temperature 47°F, above normal by 2°F; most likely mean precipitation 3.8 inches, wetter than normal by 0.1 inch.

May: Warmer than average temperatures slightly favored; above normal precipitation slightly favored. Most likely mean temperature 57°F, above normal by 0.5°F; most likely mean precipitation 4.3 inches, wetter than normal by 0.4 inch.

June: Warmer than average temperatures favored; below normal precipitation slightly favored. Most likely mean temperature 67°F, above normal by 2°F; most likely mean precipitation 3.8 inches, drier than normal by 0.5 inch.

July: Warmer than average temperatures slightly favored; near normal precipitation favored. Most likely mean temperature 71°F, above normal by 1°F; most likely mean precipitation 4.1 inches, drier than normal by 0.2 inch.

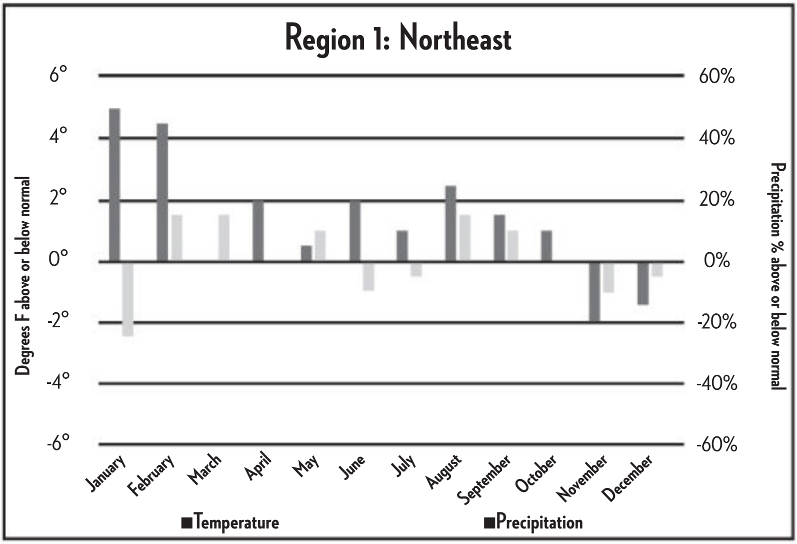
August: Warmer than average temperatures favored; above normal precipitation slightly favored. Most likely mean temperature 70°F, above normal by 2°F; most likely mean precipitation 4.7 inches, wetter than normal by 0.6 inch.

September: Warmer than average temperatures favored; near normal precipitation favored. Most likely mean temperature 63°F, above normal by 1.5°F; most likely mean precipitation 4.3 inches, wetter than normal by 0.2 inch.

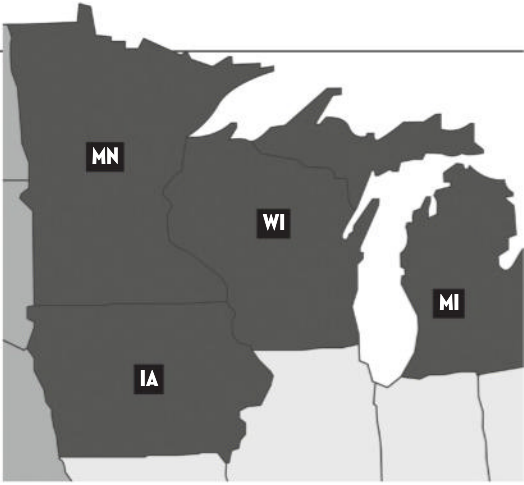
October: Warmer than average temperatures slightly favored; near normal precipitation favored. Most likely mean temperature 51°F, above normal by 1.5°F; most likely mean precipitation 4.3 inches, close to normal.

November: Cooler than average temperatures strongly favored; near normal precipitation favored. Most likely mean temperature 35°F, below normal by 4°F; most likely mean precipitation 3.3 inches, drier than normal by 0.3 inch.

December: Cooler than average temperatures favored; near normal precipitation favored. Most likely mean temperature 27°F, below normal by 1.5°F; most likely mean precipitation 3.7 inches, drier than normal by 0.1 inch.



Region 1: Northeast



2025 FORECAST

REGION 2 UPPER MIDWEST

In Brief: The most productive agricultural land on Earth is found in the Upper Midwest, but the growing outlook for 2025 looks challenging, as typical for a possible La Nina event. Winter is more likely than not to be mild, with a wetter and colder finish in February and March that may deliver the bulk of the season's snow and ice threats. Last frost dates in April and May are expected to be near to slightly earlier than normal. A resurgent La Nina favors a persistent dry and warm bias in the Midwest between June and September, with some similar historical years featuring a severe heat wave in July. Increased odds of below normal rainfall are expected to continue through the end of 2025, though the last three months of the year may bring temperatures close to or below normal.

January: Warmer than average temperatures strongly favored; below normal precipitation slightly favored. Most likely mean temperature 22°F, above normal by 6°F; most likely mean precipitation 1.1 inches, drier than normal by 0.1 inch.

February: Cooler than average temperatures slightly favored; above normal precipitation favored. Most likely mean temperature 18°F, below normal by 1°F; most likely mean precipitation 1.5 inches, wetter than normal by 0.4 inch.

March: Cooler than average temperatures favored; above normal precipitation slightly favored. Most likely mean temperature 29°F, below normal by 2.5°F; most likely mean precipitation 2 inches, wetter than normal by 0.2 inch.

April: Warmer than average temperatures slightly favored; near normal precipitation favored. Most likely mean temperature 45°F, above normal by 1°F; most likely mean precipitation 3.2 inches, wetter than normal by 0.2 inch.

May: Warmer than average temperatures slightly favored; near normal precipitation favored. Most likely mean temperature 57°F, above normal by 0.5°F; most likely mean precipitation 4.1 inches, wetter than normal by 0.2 inch.

June: Warmer than average temperatures strongly favored; below normal precipitation slightly favored.

Most likely mean temperature 70°F, above normal by 4.5°F; most likely mean precipitation 4 inches, drier than normal by 0.5 inch.

July: Warmer than average temperatures favored; below normal precipitation slightly favored. Most likely mean temperature 72°F, above normal by 2°F; most likely mean precipitation 3.5 inches, drier than normal by 0.4 inch.

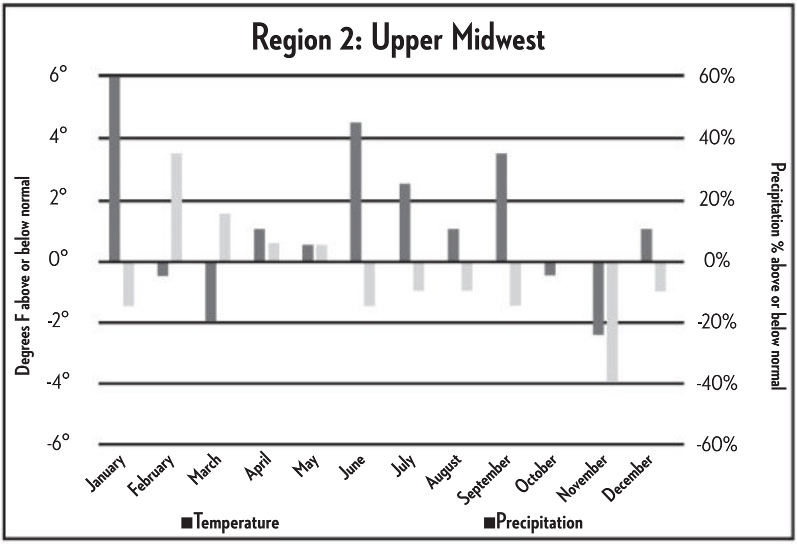
August: Warmer than average temperatures slightly favored; below normal precipitation slightly favored. Most likely mean temperature 69°F, above normal by 1°F; most likely mean precipitation 3.3 inches, drier than normal by 0.4 inch.

September: Warmer than average temperatures strongly favored; below normal precipitation slightly favored. Most likely mean temperature 63°F, above normal by 3°F; most likely mean precipitation 2.9 inches, drier than normal by 0.5 inch.

October: Close to average temperatures favored; near normal precipitation favored. Most likely mean temperature 47°F, near normal; most likely mean precipitation 3 inches, wetter than normal by 0.1 inch.

November: Cooler than average temperatures strongly favored; below normal precipitation strongly favored. Most likely mean temperature 31°F, below normal by 3°F; most likely mean precipitation 1.1 inches, drier than normal by 0.8 inch.

December: Warmer than average temperatures slightly favored; near normal precipitation favored. Most likely mean temperature 23°F, above normal by 1.5°F; most likely mean precipitation 1.3 inches, drier than normal by 0.1 inch.


Region 2: Upper Midwest

2025 FORECAST
REGION 3 OHIO VALLEY

IL
IN
OH
WV
MO
KY
TN

In Brief: The banks of the Ohio look to be persistently toastier than normal in 2025, with a particularly mild winter and early spring more likely than not to feature an earlier than average last frost. While the first three months of the year are likely to be wetter than normal, a higher than usual proportion of winter precipitation will fall as rain rather than snow or ice, especially in the lower Ohio Valley. Temperatures during the peak of growing season in July and August will tilt a little above normal with a dry bias in the northern half of the zone. Fall is also likely to run a little warmer and drier than average, especially during a potential "second summer" in September. Odds of a later than average first frost are elevated in October, though November may tilt colder and drier.

January: Warmer than average temperatures strongly favored; near normal precipitation favored. Most likely mean temperature 37°F, above normal by 6.5°F; most likely mean precipitation 3.2 inches, wetter than normal by 0.2 inch.

February: Warmer than average temperatures favored; above normal precipitation favored. Most likely mean temperature 36°F, above normal by 1.5°F; most likely mean precipitation 3.9 inches, wetter than normal by 0.9 inch.

March: Warmer than average temperatures slightly favored; above normal precipitation slightly favored. Most likely mean temperature 45°F, above normal by 1.5°F; most likely mean precipitation 4.6 inches, wetter than normal by 0.8 inch.

April: Warmer than average temperatures slightly favored; near normal precipitation favored. Most likely mean temperature 56°F, above normal by 1.5°F; most likely mean precipitation 4.3 inches, drier than normal by 0.1 inch.

May: Close to average temperatures favored; above normal precipitation slightly favored. Most likely mean temperature 64°F, above normal by 0.5°F; most likely mean precipitation 6.1 inches, wetter than normal by 1.2 inches.

June: Warmer than average temperatures favored; near normal precipitation favored. Most likely mean temperature 74°F, above normal by 2.5°F; most likely mean precipitation

4.2 inches, drier than normal by 0.5 inch.

July: Warmer than average temperatures slightly favored; near normal precipitation favored. Most likely mean temperature 76°F, above normal by 0.5°F; most likely mean precipitation 4.5 inches, wetter than normal by 0.1 inch.

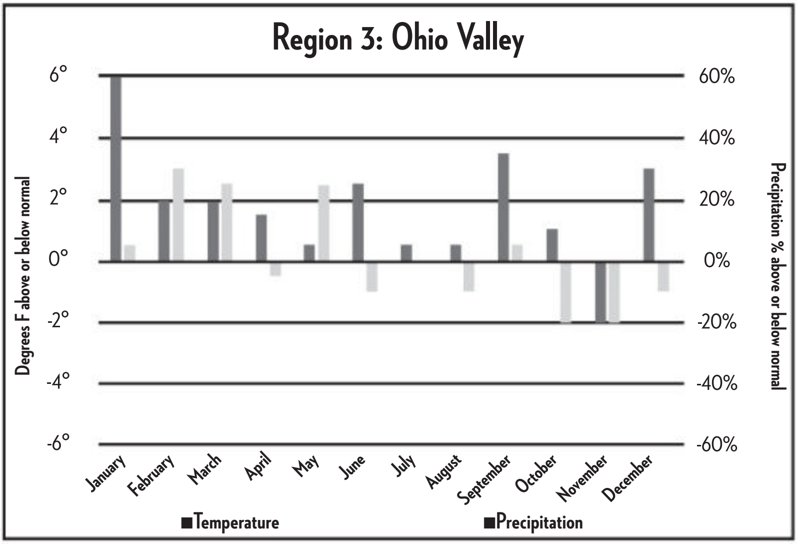
August: Close to average temperatures favored; below normal precipitation slightly favored. Most likely mean temperature 75°F, above normal by 0.5°F; most likely mean precipitation 3.3 inches, drier than normal by 0.4 inch.

September: Warmer than average temperatures strongly favored; near normal precipitation favored. Most likely mean temperature 71°F, above normal by 3.5°F; most likely mean precipitation 3.7 inches, wetter than normal by 0.2 inch.

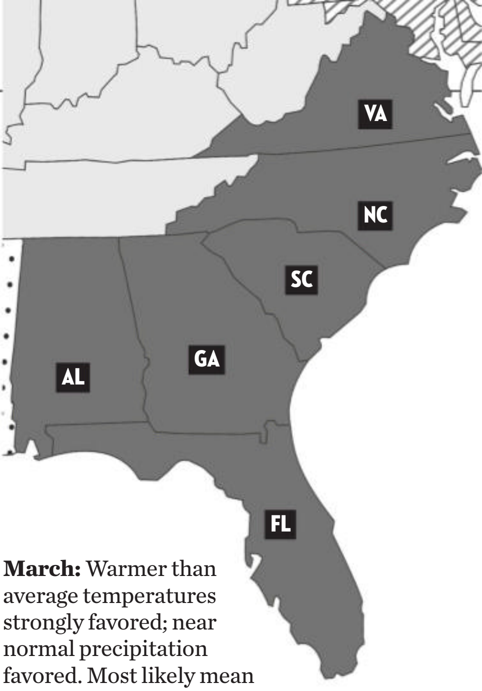
October: Warmer than average temperatures slightly favored; below normal precipitation slightly favored. Most likely mean temperature 57°F, above normal by 1°F; most likely mean precipitation 2.8 inches, drier than normal by 0.6 inch.

November: Cooler than average temperatures favored; below normal precipitation slightly favored. Most likely mean temperature 42°F, below normal by 2°F; most likely mean precipitation 2.6 inches, drier than normal by 0.8 inch.

December: Warmer than average temperatures strongly favored; near normal precipitation favored. Most likely mean temperature 38°F, above normal by 3.5°F; most likely mean precipitation 3.1 inches, drier than normal by 0.3 inch.



2025 FORECAST
REGION 4 SOUTHEAST



In Brief: The long-term downtrend in snow and ice event frequency in a region where weather is better known for humidity and bugs than winter storms is likely to continue in 2025, with a high-pressure ridge expected to camp out over the Southeast, bringing a dry and persistently warm tilt for mid-winter through late spring. Summer temperatures and precipitation are likely to revert to close to long-term norms, with an active hurricane season bringing enhanced landfall risks to the eastern Gulf and Southeast coast in August and September. Warmer and slightly drier than normal conditions may return in the fall and continue through December, particularly if a La Nina event remains in place in the Pacific.

January: Warmer than average temperatures strongly favored; below normal precipitation slightly favored. Most likely mean temperature 50°F, above normal by 4°F; most likely mean precipitation 3.3 inches, drier than normal by 0.8 inch.

February: Warmer than average temperatures strongly favored; near normal precipitation favored. Most likely mean temperature 53°F, above normal by 3.5°F; most likely mean precipitation 3.4 inches, drier than normal by 0.3 inch.

March: Warmer than average temperatures strongly favored; near normal precipitation favored. Most likely mean temperature 58°F, above normal by 3°F; most likely mean precipitation 3.9 inches, drier than normal by 0.4 inch.

April: Warmer than average temperatures slightly favored; above normal precipitation slightly favored. Most likely mean temperature 64°F, above normal by 1.5°F; most likely mean precipitation 4.2 inches, wetter than normal by 0.4 inch.

May: Warmer than average temperatures slightly favored; near normal precipitation favored. Most likely mean temperature 72°F, above normal by 1.5°F; most likely mean precipitation 4 inches, wetter than normal by 0.2 inch.

June: Warmer than average temperatures slightly favored; near normal precipitation favored. Most likely mean temperature 77°F, above normal by 0.5°F; most likely mean precipitation 5.1 inches, drier than normal by 0.2 inch.

July: Close to average temperatures favored; above normal precipitation slightly favored. Most likely mean temperature 79°F, below normal by 0.5°F; most likely mean precipitation 6.1 inches, wetter than normal by 0.7 inch.

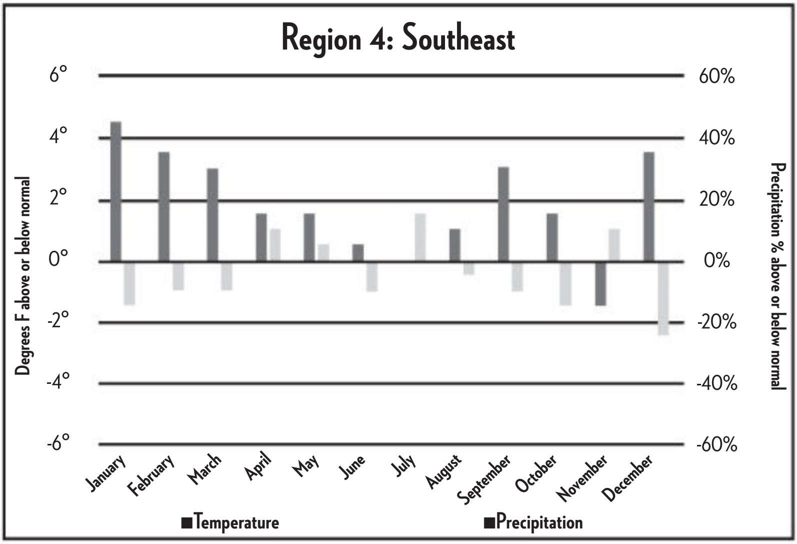
August: Warmer than average temperatures slightly favored; near normal precipitation favored. Most likely mean temperature 80°F, above normal by 1°F; most likely mean precipitation 5 inches, drier than normal by 0.3 inch.

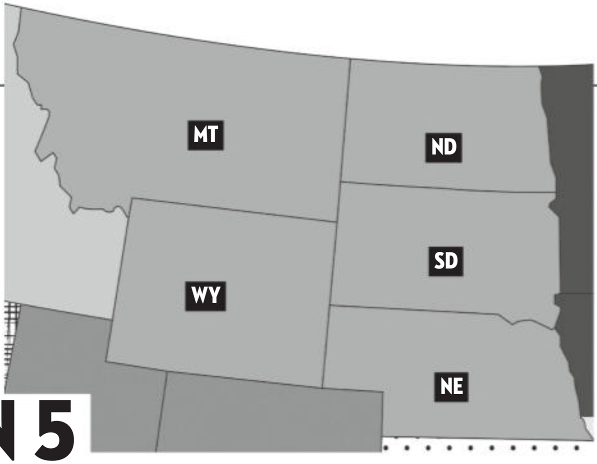
September: Warmer than average temperatures strongly favored; near normal precipitation favored. Most likely mean temperature 77°F, above normal by 3°F; most likely mean precipitation 4.4 inches, drier than normal by 0.4 inch.

October: Warmer than average temperatures favored; below normal precipitation slightly favored. Most likely mean temperature 66°F, above normal by 1.5°F; most likely mean precipitation 3 inches, drier than normal by 0.5 inch.

November: Cooler than average temperatures favored; near normal precipitation favored. Most likely mean temperature 53°F, below normal by 2°F; most likely mean precipitation 3.6 inches, wetter than normal by 0.3 inch.

December: Warmer than average temperatures strongly favored; below normal precipitation slightly favored. Most likely mean temperature 52°F, above normal by 3.5°F; most likely mean precipitation 3.1 inches, drier than normal by 0.9 inch.





2025 FORECAST

REGION 5 ROCKIES AND PLAINS

In Brief: There's nothing between the North Pole and the Dakotas but a barbed wire fence, and even that's blown down. After a mild start to winter, well below normal temperatures but slightly fewer than average snowstorms are expected in February and March, followed by moderation in April. Temperatures are generally expected to be above average with a dry bias through summer, though the eastern section of the zone may be favored for hail- and wind-producing storm complexes in July and August. Significantly less than average rainfall is favored in the last four months of the year, with possible drought developing by November. Look for a later than average last frost and a mild start to winter in December.

January: Warmer than average temperatures strongly favored; near normal precipitation favored. Most likely mean temperature 27°F, above normal by 7°F; most likely mean precipitation 0.8 inch, close to normal.

February: Cooler than average temperatures strongly favored; near normal precipitation favored. Most likely mean temperature 19°F, below normal by 4°F; most likely mean precipitation 0.8 inch, close to normal.

March: Cooler than average temperatures favored; near normal precipitation favored. Most likely mean temperature 31°F, below normal by 2°F; most likely mean precipitation 1.1 inches, drier than normal by 0.1 inch.

April: Close to average temperatures favored; near normal precipitation favored. Most likely mean temperature 43°F, near normal; most likely mean precipitation 2 inches, wetter than normal by 0.1 inch.

May: Close to average temperatures favored; near normal precipitation favored. Most likely mean temperature 53°F, below normal by 0.5°F; most likely mean precipitation 3.1 inches, wetter than normal by 0.2 inch.

June: Warmer than average temperatures strongly favored; below normal precipitation slightly favored. Most likely mean temperature 65°F, above normal by 2.5°F; most likely mean precipitation 2.6 inches, drier than normal by 0.4 inch.

July: Warmer than average temperatures favored; below normal precipitation slightly favored. Most likely mean temperature 71°F, above normal by 2°F; most likely mean precipitation 1.8 inches, drier than normal by 0.4 inch.

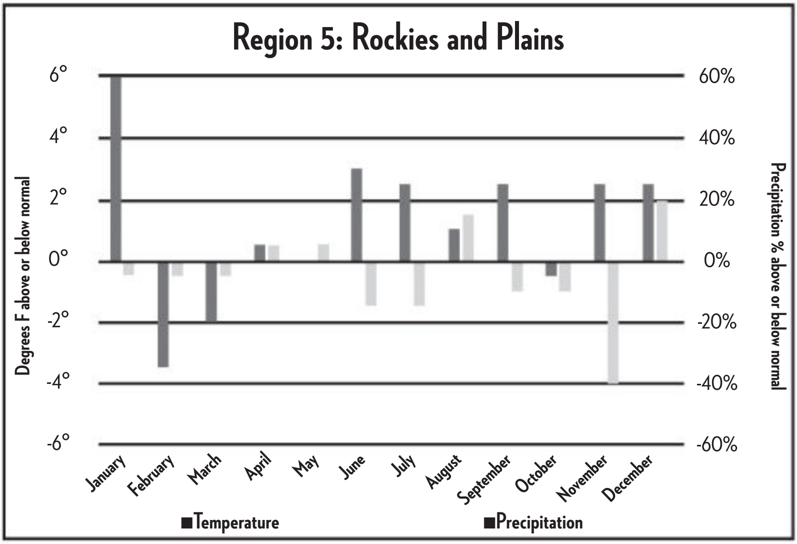
August: Warmer than average temperatures slightly favored; above normal precipitation slightly favored. Most likely mean temperature 68°F, above normal by 0.5°F; most likely mean precipitation 2.1 inches, wetter than normal by 0.3 inch.

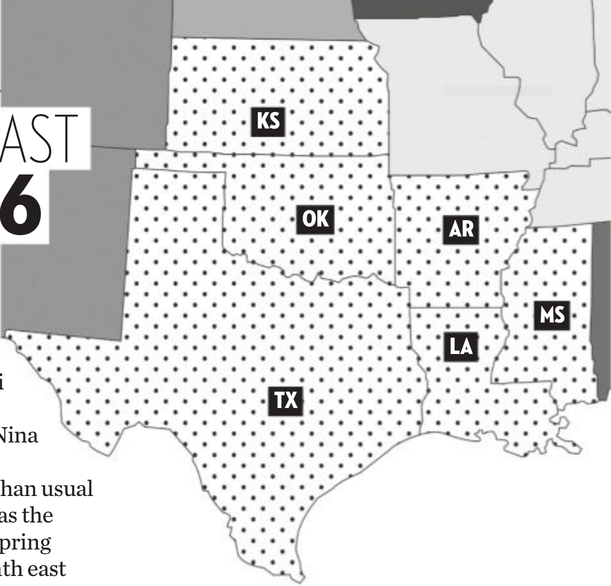
September: Warmer than average temperatures favored; near normal precipitation favored. Most likely mean temperature 60°F, above normal by 2°F; most likely mean precipitation 1.5 inches, drier than normal by 0.1 inch.

October: Close to average temperatures favored; below normal precipitation slightly favored. Most likely mean temperature 45°F, below normal by 0.5°F; most likely mean precipitation 1.4 inches, drier than normal by 0.2 inch.

November: Warmer than average temperatures favored; below normal precipitation favored. Most likely mean temperature 34°F, above normal by 2°F; most likely mean precipitation 0.6 inch, drier than normal by 0.3 inch.

December: Warmer than average temperatures favored; above normal precipitation slightly favored. Most likely mean temperature 24°F, above normal by 2.5°F; most likely mean precipitation 1.1 inches, wetter than normal by 0.2 inch.


Region 5: Rockies and Plains



2025 FORECAST
REGION 6 SOUTH

In Brief: The Southern Plains and Lower Mississippi Valley are infamous as "Tornado Alley," and the La Nina event is likely to bring more cold-season severe weather than usual between February and April as the region is split in winter and spring between unseasonable warmth east and cooler anomalies north and west. Growing season is expected to start early, with April and May likely a few degrees warmer than average. Summer temperatures and precipitation are most likely to be close to long-term climatological norms, with the western U.S. Gulf Coast seeing peak hurricane landfall odds in August. Much drier than normal conditions could lead to worsening drought by October and November, though the growing season may be extended by fall warmth.

January: Warmer than average temperatures strongly favored; near normal precipitation favored. Most likely mean temperature 49°F, above normal by 6°F; most likely mean precipitation 2.3 inches, drier than normal by 0.1 inch.

February: Cooler than average temperatures slightly favored; near normal precipitation favored. Most likely mean temperature 46°F, below normal by 0.5°F; most likely mean precipitation 2.4 inches, wetter than normal by 0.1 inch.

March: Warmer than average temperatures strongly favored; near normal precipitation favored. Most likely mean temperature 58°F, above normal by 2.5°F; most likely mean precipitation 2.7 inches, drier than normal by 0.2 inch.

April: Warmer than average temperatures slightly favored; below normal precipitation slightly favored. Most likely mean temperature 64°F, above normal by 1°F; most likely mean precipitation 2.7 inches, drier than normal by 0.5 inch.

May: Warmer than average temperatures favored; near normal precipitation favored. Most likely mean temperature 73°F, above normal by 2°F; most likely mean precipitation 3.7 inches, drier than normal by 0.4 inch.

June: Warmer than average temperatures slightly favored; near normal precipitation favored. Most likely mean temperature 79°F, above normal by 0.5°F; most likely mean precipitation 3.7 inches, drier than normal by 0.1 inch.

July: Warmer than average temperatures slightly favored; above normal precipitation slightly favored. Most likely mean temperature 82°F, above normal by 0.5°F; most likely mean precipitation 3.9 inches, wetter than normal by 0.6 inch.

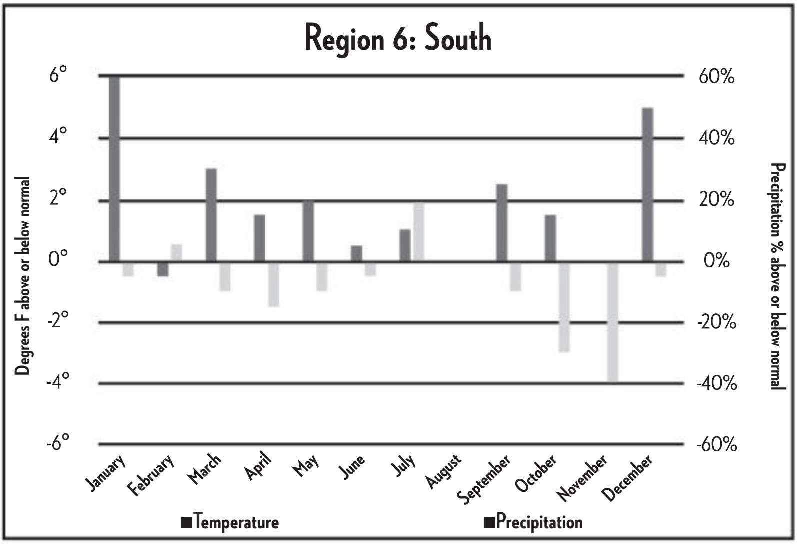
August: Close to average temperatures favored; near normal precipitation favored. Most likely mean temperature 81°F, near normal; most likely mean precipitation 3.3 inches, wetter than normal by 0.1 inch.

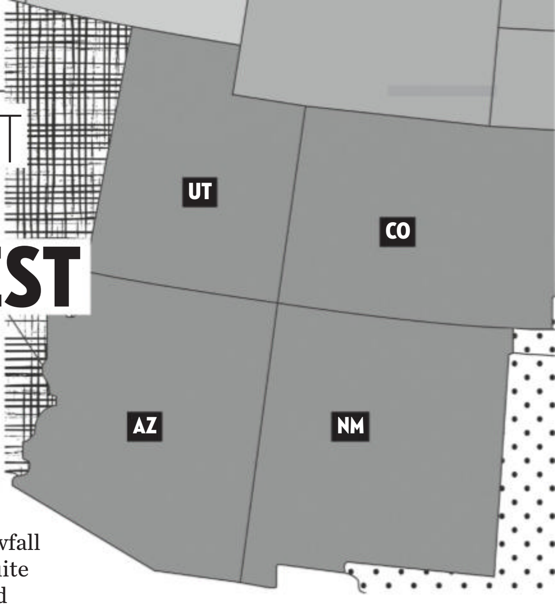
September: Warmer than average temperatures strongly favored; below normal precipitation slightly favored. Most likely mean temperature 77°F, above normal by 2.5°F; most likely mean precipitation 2.9 inches, drier than normal by 0.3 inch.

October: Warmer than average temperatures favored; below normal precipitation favored. Most likely mean temperature 66°F, above normal by 1.5°F; most likely mean precipitation 2.2 inches, drier than normal by 1 inch.

November: Close to average temperatures favored; below normal precipitation strongly favored. Most likely mean temperature 53°F, near normal; most likely mean precipitation 1.5 inches, drier than normal by 1 inch.

December: Warmer than average temperatures strongly favored; near normal precipitation favored. Most likely mean temperature 50°F, above normal by 5°F; most likely mean precipitation 2.5 inches, drier than normal by 0.2 inch.





2025 FORECAST
REGION 7 SOUTHWEST

In Brief: The driest region of the continental U.S. is highly dependent on summer monsoon rains, averaging less than 1 inch in total precipitation from late fall through early summer. In 2025, dry-season rain and snowfall is likely to lag seasonal average quite significantly between January and May, though winter temperatures are also expected to be somewhat below normal, especially in February. However, the crucial summer rainfall is expected to come in around average at its August peak, before rain again shuts off in October and November. Temperatures in fall likely will be above average, with warm anomalies possibly rising further to close the year in December.

January: Warmer than average temperatures slightly favored; near normal precipitation favored. Most likely mean temperature 35°F, above normal by 1°F; most likely mean precipitation 0.9 inch, drier than normal by 0.1 inch.

February: Cooler than average temperatures strongly favored; below normal precipitation favored. Most likely mean temperature 33°F, below normal by 4.5°F; most likely mean precipitation 0.7 inch, drier than normal by 0.3 inch.

March: Warmer than average temperatures slightly favored; below normal precipitation strongly favored. Most likely mean temperature 45°F, above normal by 1°F; most likely mean precipitation 0.6 inch, drier than normal by 0.4 inch.

April: Close to average temperatures favored; below normal precipitation favored. Most likely mean temperature 51°F, above normal by 0.5°F; most likely mean precipitation 0.7 inch, drier than normal by 0.3 inch.

May: Cooler than average temperatures slightly favored; below normal precipitation favored. Most likely mean temperature 59°F, below normal by 0.5°F; most likely mean precipitation 0.8 inch, drier than normal by 0.3 inch.

June: Warmer than average temperatures slightly favored; near normal precipitation favored. Most likely mean temperature 71°F, above normal by 1°F; most likely mean precipitation 0.8 inch, drier than normal by 0.1 inch.

July: Warmer than average temperatures favored; near normal precipitation favored. Most likely mean temperature 76°F, above normal by 1.5°F; most likely mean precipitation 1.7 inches, drier than normal by 0.1 inch.

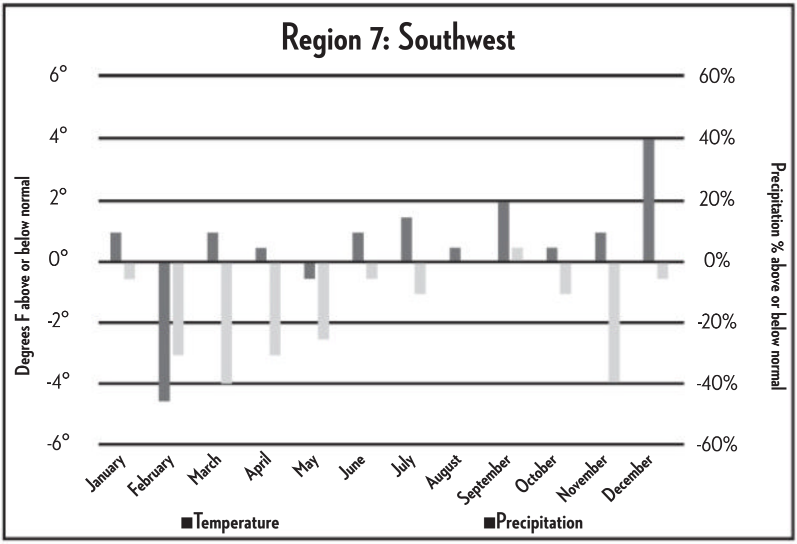
August: Close to average temperatures favored; near normal precipitation favored. Most likely mean temperature 73°F, near normal; most likely mean precipitation 2 inches, close to normal.

September: Warmer than average temperatures favored; above normal precipitation slightly favored. Most likely mean temperature 67°F, above normal by 2°F; most likely mean precipitation 1.6 inches, wetter than normal by 0.2 inch.

October: Warmer than average temperatures slightly favored; near normal precipitation favored. Most likely mean temperature 55°F, above normal by 1°F; most likely mean precipitation 1.1 inches, drier than normal by 0.1 inch.

November: Warmer than average temperatures slightly favored; below normal precipitation favored. Most likely mean temperature 43°F, above normal by 1°F; most likely mean precipitation 0.5 inch, drier than normal by 0.3 inch.

December: Warmer than average temperatures strongly favored; near normal precipitation favored. Most likely mean temperature 38°F, above normal by 4°F; most likely mean precipitation 1 inch, close to normal.



Region 7: Southwest

2025 FORECAST
REGION 8 NORTHWEST

In Brief: The blues are calling in the flannel and rain forest capital of the U.S., where the first half of 2025 will probably be cooler than normal, though January may contain a mild middle to the winter. January through March also is likely to bring a wetter than normal rainy season to the Pacific Northwest, particularly in coastal sections. Look for a snowy season extending into May in the Cascades and Northern Rockies. Summer temperatures will tilt warmer than usual, but the record-breaking extremes of June and July heat seen in other years in the 2020s are not expected. After near-normal conditions in September and October, look for a warmer trend to end 2025, possibly featuring a very mild December for the region.

January: Warmer than average temperatures strongly favored; above normal precipitation slightly favored. Most likely mean temperature 34°F, above normal by 3.5°F; most likely mean precipitation 5.1 inches, wetter than normal by 0.7 inch.

February: Cooler than average temperatures strongly favored; near normal precipitation favored. Most likely mean temperature 28°F, below normal by 4.5°F; most likely mean precipitation 3.2 inches, close to normal.

March: Cooler than average temperatures strongly favored; above normal precipitation favored. Most likely mean temperature 35°F, below normal by 3°F; most likely mean precipitation 4.5 inches, wetter than normal by 1 inch.

April: Close to average temperatures favored; below normal precipitation slightly favored. Most likely mean temperature 43°F, below normal by 0.5°F; most likely mean precipitation 2.3 inches, drier than normal by 0.5 inch.

May: Cooler than average temperatures favored; above normal precipitation slightly favored. Most likely mean temperature 49°F, below normal by 2.5°F; most likely mean precipitation 2.6 inches, wetter than normal by 0.3 inch.

June: Close to average temperatures favored; below normal precipitation slightly favored. Most likely mean temperature 58°F, above normal by 0.5°F; most likely mean precipitation 1.5 inches, drier than normal by 0.2 inch.

July: Warmer than average temperatures slightly favored; near normal precipitation favored. Most likely mean temperature 67°F, above normal by 1°F; most likely mean precipitation 0.6 inch, drier than normal by 0.1 inch.

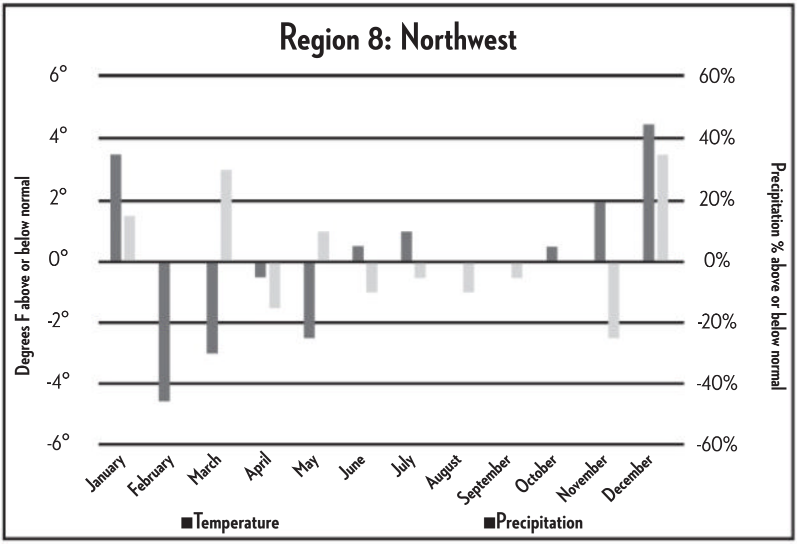
August: Close to average temperatures favored; near normal precipitation favored. Most likely mean temperature 66°F, above normal by 0.5°F; most likely mean precipitation 0.6 inch, drier than normal by 0.1 inch.

September: Close to average temperatures favored; near normal precipitation favored. Most likely mean temperature 58°F, near normal; most likely mean precipitation 1.2 inches, drier than normal by 0.1 inch.

October: Warmer than average temperatures slightly favored; near normal precipitation favored. Most likely mean temperature 47°F, above normal by 0.5°F; most likely mean precipitation 2.7 inches, close to normal.

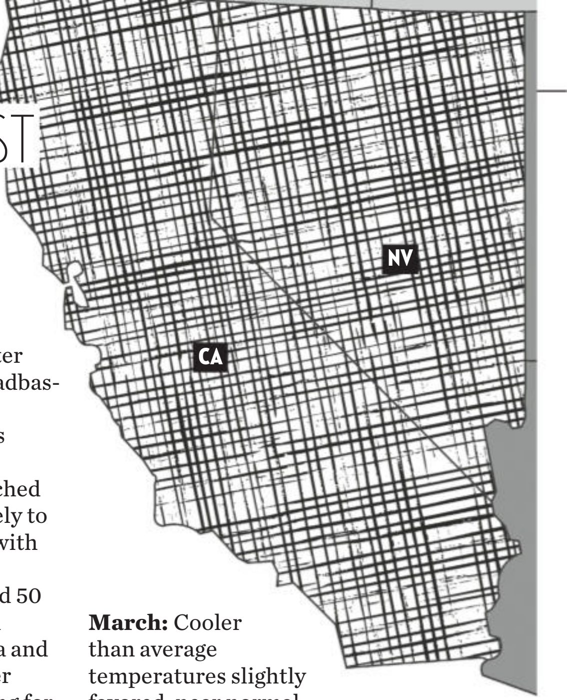
November: Warmer than average temperatures favored; below normal precipitation slightly favored. Most likely mean temperature 38°F, above normal by 2°F; most likely mean precipitation 3.2 inches, drier than normal by 1 inch.

December: Warmer than average temperatures strongly favored; above normal precipitation favored. Most likely mean temperature 34°F, above normal by 4.5°F; most likely mean precipitation 6.4 inches, wetter than normal by 1.6 inches.



2025 FORECAST

REGION 9 WEST



In Brief: Food grows where water flows, and the West's inland breadbasket of fruit and nut crops are dependent on banking the year's water supply in the wet winter months ahead of a typically parched summer. In 2025, La Nina is likely to exacerbate long-term drought, with most of the wet season months bringing between 20 percent and 50 percent less rain (and mountain snow) than average in California and Nevada. February and November were particularly underwhelming for precipitation in comparable years to 2025. Spring precipitation may come in closer to normal. Winter and spring are likely to be cooler than normal, with a slight but consistent warm bias expected to develop in the second half of the year potentially worsening ongoing water issues.

January: Close to average temperatures favored; near normal precipitation favored. Most likely mean temperature 40°F, above normal by 0.5°F; most likely mean precipitation 2.6 inches, drier than normal by 0.3 inch.

February: Cooler than average temperatures strongly favored; below normal precipitation strongly favored. Most likely mean temperature 38°F, below normal by 4°F; most likely mean precipitation 1.2 inches, drier than normal by 1.5 inches.

March: Cooler than average temperatures slightly favored; near normal precipitation favored. Most likely mean temperature 46°F, below normal by 1.5°F; most likely mean precipitation 2.5 inches, wetter than normal by 0.2 inch.

April: Close to average temperatures favored; below normal precipitation slightly favored. Most likely mean temperature 52°F, above normal by 0.5°F; most likely mean precipitation 1.1 inches, drier than normal by 0.3 inch.

May: Cooler than average temperatures strongly favored; above normal precipitation favored. Most likely mean temperature 57°F, below normal by 3°F; most likely mean precipitation 1.3 inches, wetter than normal by 0.3 inch.

June: Close to average temperatures favored; below normal precipitation strongly favored. Most likely mean temperature 68°F, near normal; most likely mean precipitation 0.2 inch, drier than normal by 0.2 inch.

July: Warmer than average temperatures favored; near normal precipitation favored. Most likely mean temperature 77°F, above normal by 2°F; most likely mean precipitation 0.3 inch, close to normal.

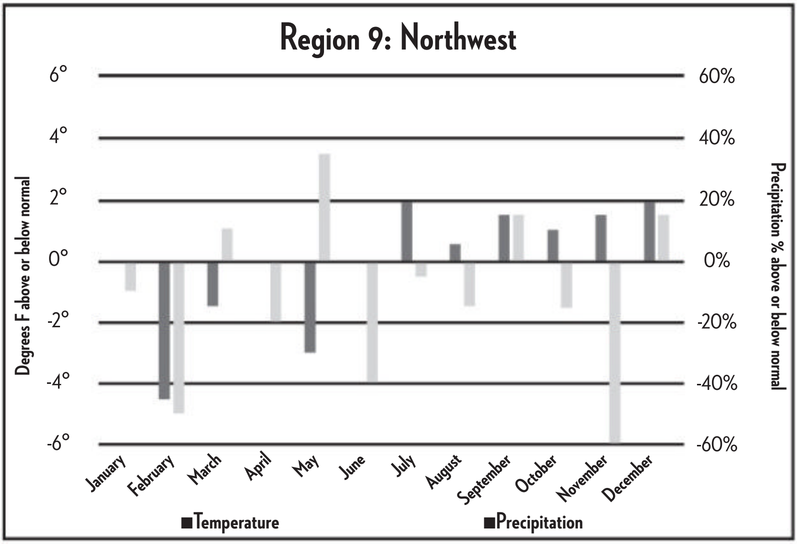
August: Close to average temperatures favored; near normal precipitation favored. Most likely mean temperature 75°F, above normal by 0.5°F; most likely mean precipitation 0.3 inch, close to normal.

September: Warmer than average temperatures slightly favored; above normal precipitation slightly favored. Most likely mean temperature 69°F, above normal by 1.5°F; most likely mean precipitation 0.4 inch, wetter than normal by 0.1 inch.

October: Warmer than average temperatures slightly favored; below normal precipitation slightly favored. Most likely mean temperature 59°F, above normal by 1.5°F; most likely mean precipitation 0.9 inch, drier than normal by 0.1 inch.

November: Warmer than average temperatures favored; below normal precipitation strongly favored. Most likely mean temperature 48°F, above normal by 2°F; most likely mean precipitation 0.5 inch, drier than normal by 1.1 inches.

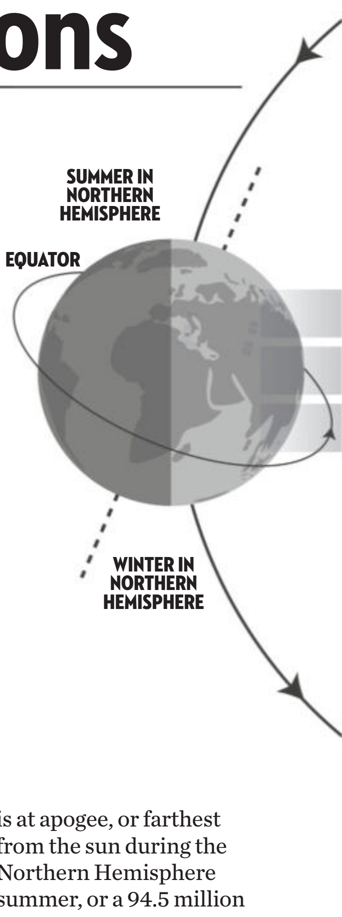
December: Warmer than average temperatures favored; above normal precipitation slightly favored. Most likely mean temperature 41°F, above normal by 2°F; most likely mean precipitation 3.3 inches, wetter than normal by 0.4 inch.



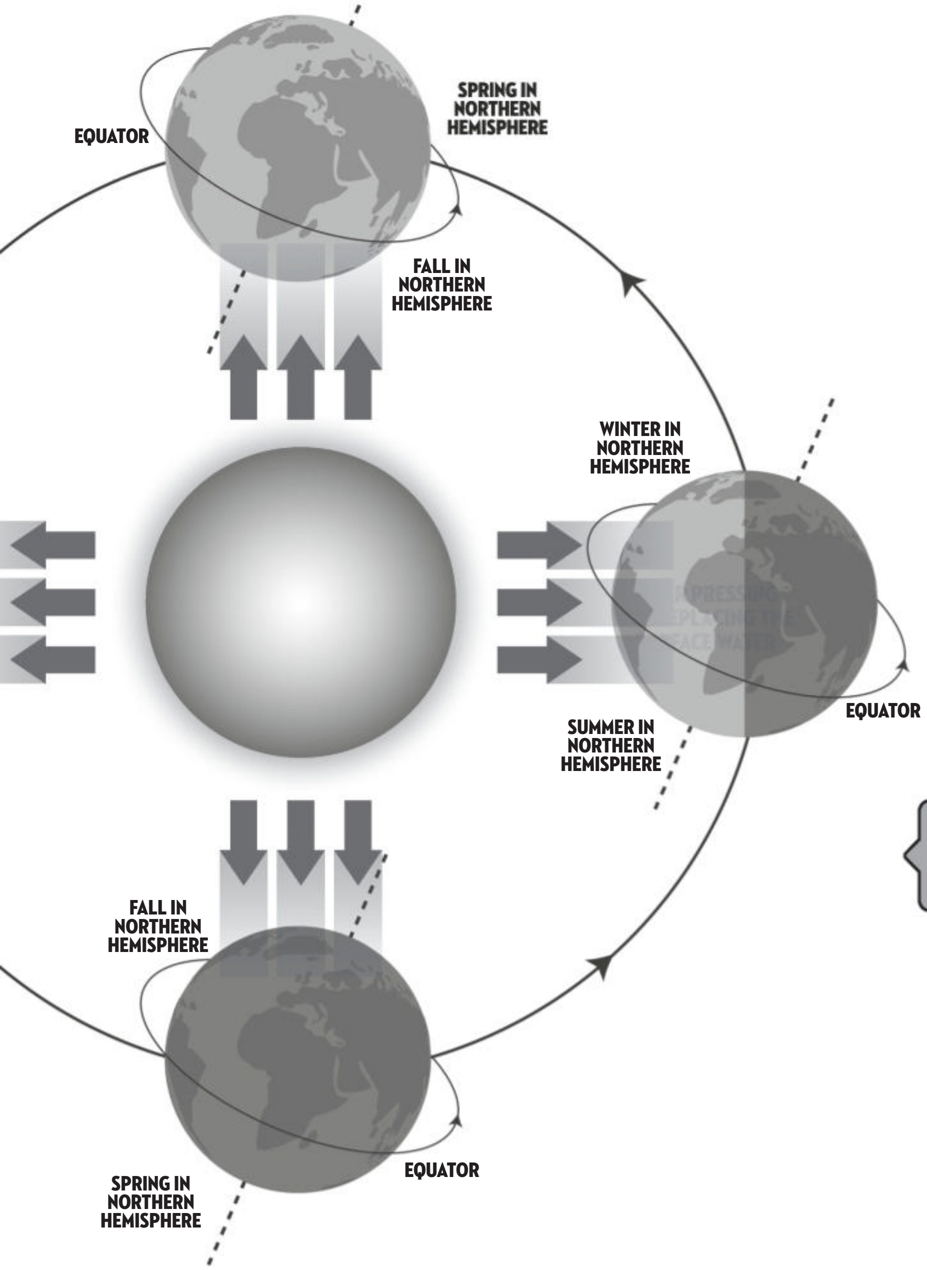
The Reasons for the Seasons

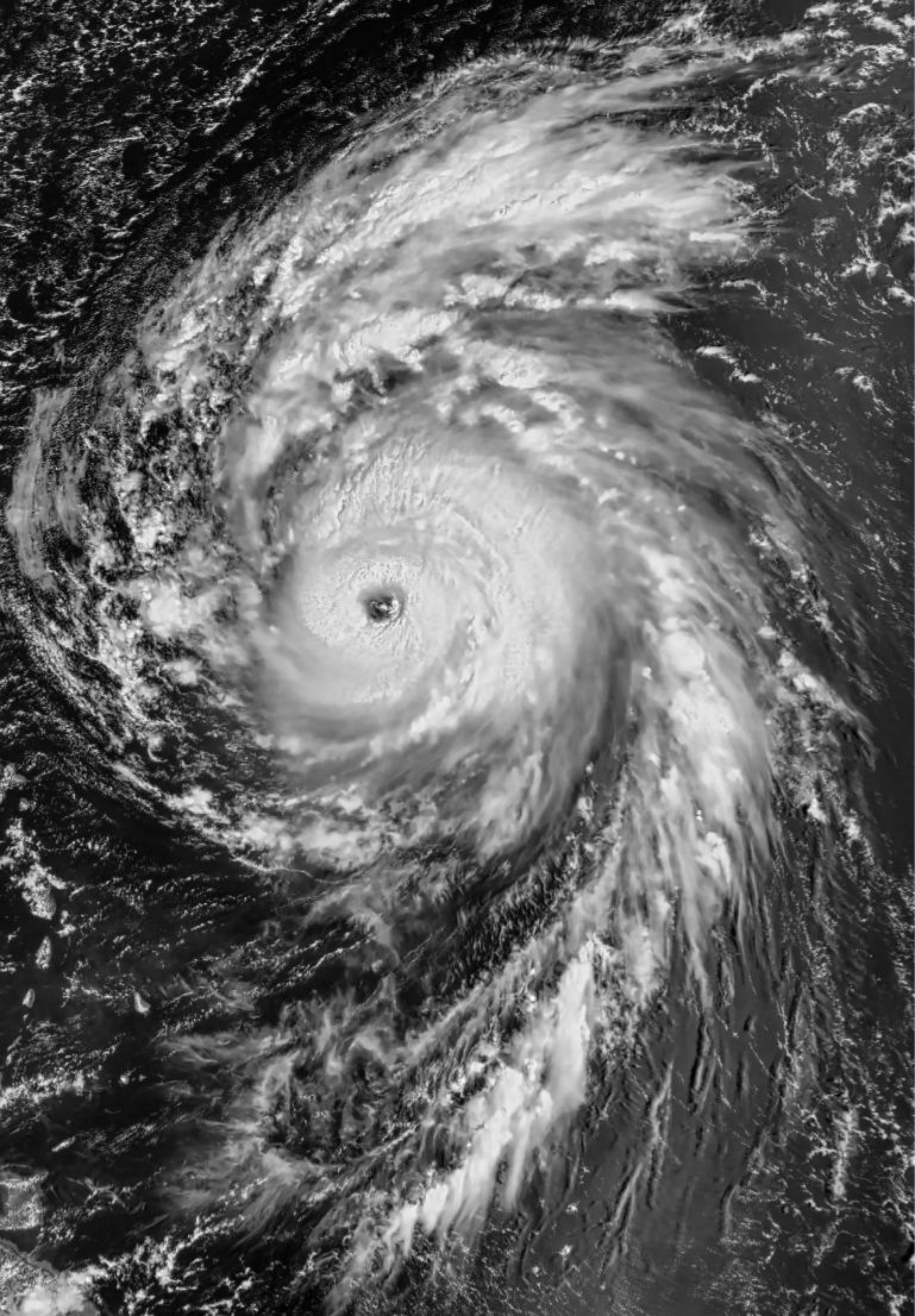
The Earth is a ball in space (technically an oblate spheroid, but close enough), revolving around a much larger, energy-producing ball at a distance of approximately 93 million miles. As it travels one revolution around the sun once every 365.25 days, the Earth also spins like a top, completing one rotation on its axis each 23 hours and 56 minutes. But that axis is not straight up and down relative to the path of Earth's solar orbit; likely due to a collision with a smaller proto-planet in the early solar system, that rotation was whacked askew at a 23.5-degree angle.

This complex cosmic ballet explains both our daily weather cycles and our annual cycle of the four seasons. During the Northern Hemisphere summer months, the Earth's axis of rotation is pointed toward the sun. Days are longer and nights are shorter north of the Equator, and the increased solar energy absorbed by the land and oceans accounts for the warmer average temperatures. At the fall and spring equinoxes, the Northern and Southern Hemispheres receive equal sunlight, and weather patterns are variable. In Northern Hemisphere winter, the Earth's axis points away from the sun, resulting in short days, less solar energy absorbed, and colder temperatures. The Southern Hemisphere experiences winter as the Northern Hemisphere experiences summer, and vice versa.



Therefore, the seasons are not caused by changes in how far away the Earth is from the sun at different times of year. While the Earth's orbit is oval-shaped, our planet is actually at perigee, or closest to the sun, during the Northern Hemisphere's winter months, at 91.5 million miles distance. Likewise, Earth is at apogee, or farthest from the sun during the Northern Hemisphere summer, or a 94.5 million miles. Knowing the sun is slightly smaller in the sky will no doubt cool your thoughts next time you're sweating through a July heat wave.


EQUATOR
SPRING IN NORTHERN HEMISPHERE
FALL IN NORTHERN HEMISPHERE
WINTER IN NORTHERN HEMISPHERE
SUMMER IN NORTHERN HEMISPHERE
EQUATOR
FALL IN NORTHERN HEMISPHERE
SPRING IN NORTHERN HEMISPHERE
EQUATOR



2025 Hurricane Names

SAY HELLO TO A CROWD YOU HOPE WON'T BE HANGING AROUND YOUR HOME THIS YEAR.

A hurricane named Wendy? Who says the World Meteorological Organization doesn't have a sense of humor? Here are the 21 names that will be used to designate Atlantic tropical storms and hurricanes, if needed, in 2025.

Andrea
Barry
Chantal
Dexter
Erin
Fernand
Gabrielle
Humberto
Imelda
Jerry
Karen
Lorenzo
Melissa
Nestor
Olga
Pablo
Rebekah
Sebastian
Tanya
Van
Wendy

A BRIEF HISTORY OF NAMING ATLANTIC STORMS

1940s—U.S. Air Force uses the military phonetic alphabet (Able, Baker, Charlie, etc.) to refer to storms in communications between weather centers and aircraft.

1953—The National Hurricane Center begins using a repeated list of female names to designate storms each year, and the media picks up on the practice.

1955—Names of destructive storms start being omitted from the list for 10 years. Carol and Edna are the first names to be thus dropped.

1969—The Interdepartmental Hurricane Conference decides to permanently retire the name of all significant storms.

1979—Responsibility for naming storms is assumed by the World Meteorological Organization, which creates six alphabetized lists of 21 names that rotate every six years, with the retired names of major storms being replaced. It's also the first year that male names are added to the list.

Hurricane Classification

The term "hurricane" specifically refers to a tropical cyclone with sustained winds of 74 mph or greater in the Atlantic or Eastern Pacific Oceans, as measured by a one-minute average of wind 33 feet off the ground. The Saffir-Simpson Hurricane Wind Scale was developed in the 1970s by an engineer, Herb Saffir, and the director of the National Hurricane Center, Robert Simpson, to give the public a general sense of the maximum structural damage a given hurricane would cause. (Those five categories appear below.) However, a hurricane's highest winds are found only in a tiny slice of the most intense part of the storm. As the hazards of a hurricane are many—gusts, storm surge, flash flooding, river flooding and tornadoes—some scientists are advocating for the easier-to-determine and more representative minimum storm pressure to replace sustained wind as the primary means of hurricane classification. Incidentally, this also is why you shouldn't expect an unnecessary "Category 6" to be added anytime soon.

CATEGORY 1: 74–95 MPH. Superficial damage to well-built structures, significant damage to lightly built or temporary structures. Large branches snapped and some trees toppled. Extensive power outages associated with downed limbs.

CATEGORY 2: 96–110 MPH. Well-constructed structures may sustain serious roof and siding damage, while light or temporary buildings will experience severe structural damage. Many trees will be snapped or uprooted, causing total power loss and long-lasting outages.

CATEGORY 3: 111–129 MPH. Devastating damage will occur to structures not specifically fortified against severe wind, including major roof damage. A majority of trees will be snapped or uprooted, making roads impassable. Electricity is likely to be unavailable for several days to weeks due to destruction of power system components.

CATEGORY 4: 130–156 MPH. Catastrophic damage to most structures. Loss of most roof structure and some exterior walls. Most trees will be snapped or uprooted and most power poles downed, isolating residential areas. Power systems destroyed, rendering areas that experience sustained Category 4 winds uninhabitable for weeks or months.

CATEGORY 5: 157+ MPH. Catastrophic damage to all structures. Frame houses and commercial structures destroyed, with total roof failure and wall collapse. Almost all trees and vegetation destroyed, with power outages lasting for weeks or months. Only four Category 5 hurricanes are known to have made landfall in the continental United States.

Tornado Classification

The Enhanced Fujita (EF) Scale has been the standard by which tornadoes have been rated in the United States since 2007. Because tornadoes are small and intense, direct observations of their winds are very rare. Therefore, the EF scale assigns storms a rating based on something much easier to see—observations of tornadic damage to trees and structures. Using the levels of damage known to occur to 28 types of structures and vegetation at particular wind speed thresholds, the EF Scale works backward to estimate the maximum three-second wind gust occurring in the tornado on levels from 0 to 5. What are these 28 types of structures? Everything ranging from double-wide mobile homes to hardwood trees to shopping malls. After a suspected tornado, trained National Weather Service personnel perform a thorough storm survey, matching a specified degree of damage to the appropriate structural indicator. That the most recent confirmed EF5 tornado occurred in Moore, Okla., in 2013 does not mean that no U.S. tornadoes have produced over 200 mph wind gusts since. It simply means that it is exceedingly difficult to find clear structural evidence of winds that strong, as most buildings are completely destroyed by weaker winds. Such is the nature of the EF Scale.

EF scale rating	3-second gust
0	65–85 mph
1	86–110 mph
2	111–135 mph
3	136–165 mph
4	166–200 mph
5	over 200 mph

Beaufort Wind Force Scale

Admiral Francis Beaufort of the British Navy formalized a scale in 1831 that related the speed of winds to conditions of the seas in terms of how a frigate would perform at each of 13 wind levels. As the age of sailing ships passed away in the 20th century, the original Beaufort Scale was adapted to a quick visual estimate of wind speed on land and on water when an anemometer is not available. It continues to be used to this day to do so.

SEA AND LAND DEFINITIONS FOR THE BEAUFORT SCALE

Force	MPH	Brief Name	For Use at Sea	For Use on Land
0	<1	Calm	Mirrored sea	Smoke rises straight up
1	1-3	Light Air	Ripples on the water	Direction of wind shown by smoke drift
2	4-7	Light Breeze	Small, glassy wavelets that do not break	Leaves rustle, wind vanes move
3	8-12	Gentle Breeze	Large wavelets with breaking crests	Leaves and small twigs in motion
4	13-18	Moderate Breeze	Small waves becoming longer	Wind raises dust, small branches move
5	19-24	Fresh Breeze	Moderate, pronounced waves, with some sea spray	Small trees and bushes sway
6	25-31	Strong Breeze	Large waves form, white foam crests with sea spray	Large branches move, umbrellas hard to use in exposed areas
7	32-38	Near Gale	White foam blown in streaks along the direction of the wind	Whole trees in motion, movement against wind challenging
8	39-46	Gale	Moderately high waves of greater length, edges of crests begin to break.	Twigs break from trees, very difficult to walk into wind
9	47-54	Strong Gale	High waves with dense streaks of foam along the direction of the wind. Crests of waves topple, spray affects visibility	Tree limbs begin to fall, possibility of superficial damage to structures.
10	55-63	Storm	Very high waves with long overhanging crests. White and tumbling sea surface.	Some shallowly rooted trees uprooted, weak structures may be damaged
11	64-73	Violent Storm	Exceptionally high waves and limited visibility	Severe tree damage and possible damage to well-built structures
12	74+	Hurricane	Air filled with foam and spray, sea completely white, visibility seriously affected	Widespread structural damage

Wind Chill

Wind chill is a highly specialized weather measurement that is meant to—quite literally—estimate how fast a human face will lose heat to the environment given a temperature below 50 degrees and a wind speed higher than three miles per hour. The faster the wind speed, the more quickly exposed skin will cool to the ambient temperature, so the higher the wind chill value. Sunshine is not taken into account, so the wind chill will overstate the rate of the body's heat loss on a sunny day.

WIND	**TEMPERATURE (°F)**												
(MPH)	**40**	**35**	**30**	**25**	**20**	**15**	**10**	**5**	**0**	**-5**	**-10**	**-15**	**-20**
5	36	31	25	19	13	7	1	-5	-11	-16	-22	-28	-34
10	34	27	21	15	11	3	-4	-10	-16	-22	-28	-35	-41
15	32	25	19	13	6	0	-7	-13	-19	-26	-32	-39	**-45**
20	30	24	17	11	4	-2	-9	-15	-22	-29	-35	**-42**	**-48**
25	29	23	16	9	3	-4	-11	-17	-24	-31	**-38**	**-44**	**-51**
30	28	22	15	8	1	-5	-12	-19	-26	-33	**-39**	**-46**	**-53**
35	28	21	14	7	0	-7	-14	-21	-27	**-34**	**-41**	**-48**	**-55**
40	27	20	13	6	-1	-8	-15	-22	-29	**-36**	**-43**	**-50**	**-57**
45	26	19	12	5	-2	-9	-16	-23	-30	**-37**	**-44**	**-51**	**-58**
50	26	19	12	4	-3	-10	-17	-24	-31	**-38**	**-45**	**-52**	**-60**
55	25	18	11	4	-3	-11	-18	-25	**-32**	**-39**	**-46**	**-52**	**-60**
60	25	17	10	3	-4	-11	-19	-26	**-33**	**-40**	**-48**	**-55**	**-62**

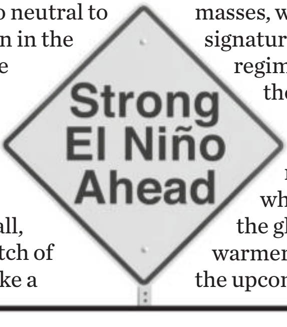
According to the National Weather Service, frostbite will occur to exposed skin within 10 minutes for bold wind chills.

Get to Know El Niño & La Niña

WHY ARE FORECASTERS ALWAYS NAME-DROPPING THIS PAIR? BECAUSE THEY'RE MAJOR TRENDSETTERS.

Seasonal forecasts are based on recurring, persistent patterns of ocean temperature anomalies that exercise a predictable influence on global weather. Of these, there are no more important climate pacemakers than El Niño and La Niña.

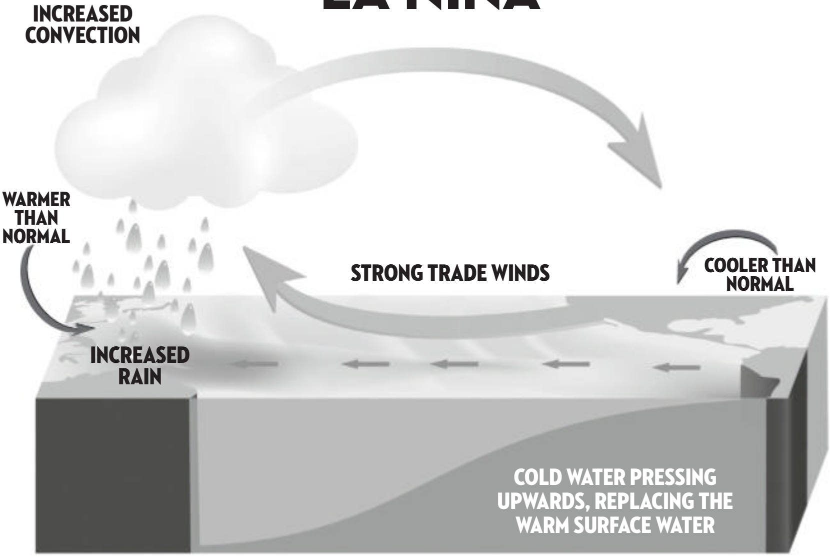
El Niño, first recognized by South American fishermen way back in the 1600s, is scientifically defined as a long-lasting period of ocean temperatures at least 1°F warmer than normal in a specific region of the Central Pacific Ocean along the Equator, generally to the south of Hawaii. La Niña, conversely, is when the average ocean temperature in this same region is around 1°F or more cooler than average. An El Niño or La Niña isn't always happening, but once one of them gets going, it tends to lock in for one to two years. The entire irregular sequence of El Niño to neutral to La Niña and back again in the Pacific takes anywhere from three to seven years.



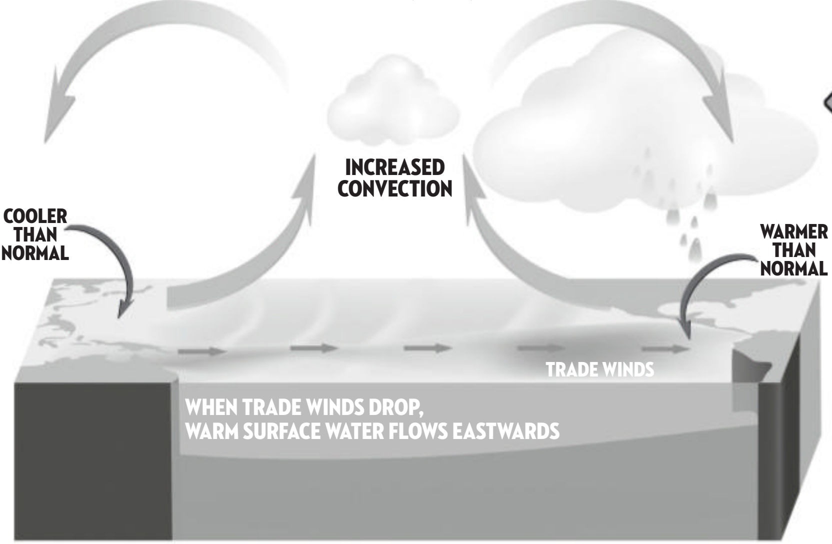
Why do forecasters care so much about cycles of water temperatures in a small, seemingly random patch of ocean? Because just like a heartbeat, the entire circulation of the atmosphere turns out to be driven by those cycles. When the waters of the Equatorial Pacific are warmer than average, the weak temperature contrast between the eastern and western Pacific slackens east-to-west trade winds. Not only do those weaker trade winds cause additional ocean warming that sustains the El Niño, but the resulting eastward shift in tropical thunderstorm activity also induces a particular worldwide pattern in which air rises and sinks. In a La Niña, stronger trade winds form a feedback loop with cooler waters, favoring the opposite pattern globally.

These rising and sinking circulations influence the location of the mid-latitude jet stream responsible for dividing warm, moist tropical air masses from cooler, drier polar air masses, with a distinctive jet stream signature for El Niño versus La Niña regimes. Therefore, knowing what the Central Pacific will be doing for the next six months to year allows forecasters to make a good guess as to whether particular regions of the globe may be wetter, drier, warmer or cooler than average for the upcoming year.

LA NIÑA


INCREASED CONVECTION
WARMER THAN NORMAL
STRONG TRADE WINDS
COOLER THAN NORMAL
INCREASED RAIN
COLD WATER PRESSING UPWARDS, REPLACING THE WARM SURFACE WATER

EL NIÑO


INCREASED CONVECTION
COOLER THAN NORMAL
WARMER THAN NORMAL
TRADE WINDS
WHEN TRADE WINDS DROP, WARM SURFACE WATER FLOWS EASTWARDS

Tides & Currents Glossary

CURRENT: A horizontal movement of water that may be tidal or nontidal. Tidal currents are caused by gravitational interactions between the sun, moon and Earth and are a part of the same general movement of the sea that is manifested as tide, the vertical rise and fall of water. Tidal currents are periodic; nontidal currents include the permanent ocean circulation currents and temporary currents caused by weather.

EBB CURRENT: The movement of a tidal current away from the coast or down an estuary.

GREAT DIURNAL RANGE OF TIDE: The difference in height between mean higher high water and mean lower low water. See definitions below.

INUNDATION: The process of covering normally dry areas with flood waters, including due to surge or tide.

MEAN HIGHER HIGH WATER: The average of the higher high-water height of each tidal day observed over the National Tidal Datum Epoch. See mean sea level.

MEAN LOWER LOW WATER: The average of the lower low-water height of each tidal day observed over the National Tidal Datum Epoch. See mean sea level.

MEAN SEA LEVEL: The arithmetic mean of hourly heights observed over a specific 19-year tidal index cycle known as the National Tidal Datum Epoch, currently 1983-2001.

NEAP TIDE: A minimum tide occurring at the first and third quarters of the moon, when the sun, moon and Earth form a right angle.

RIP TIDE: Technically known as a rip current, as it is not primarily caused by tidal forces. A narrow, river-like channel moving away from the shore at high speed, rip currents form as waves dispersed along the beach, causing water to become trapped between the beach and a sandbar or other underwater feature.

TIDAL CYCLE: The periodic changes in the intensity of tides caused primarily by the varying relations between the Earth moon and sun.

TIDAL PILING: Unusually high water levels as the result of an accumulation of successive incoming tides that do not completely drain due to opposing strong winds and/or waves.

TIDAL WAVE: So-called "tidal waves" are not caused by tides, but rather are long-period waves usually generated by a disturbance that displaces massive amounts of water, such as an earthquake occurring on or near the sea floor, underwater volcanic eruption or landslide. Can become extremely large in height, reaching 30 feet or more as they approach the shoreline, particularly where a bay, harbor or lagoon funnels the waves.

TIDES: The periodic variations in the surface water level of the oceans, bays, gulfs and inlets occurring at regular intervals as the result of the gravitational attraction of the sun and the moon on the Earth.

TIDE ANOMALY: Actual water level minus the predicted value.

SPRING TIDE: A maximal tide which occurs around the time of the new and full moon, when the sun, moon and Earth are aligned.

STORM SURGE: An abnormal rise in sea level accompanying a hurricane or other intense storm, whose height is the difference between the observed level of the sea surface and the level that would have occurred in the absence of the storm. Surge is usually estimated by subtracting the normal or astronomic tide from the observed storm tide.

STORM TIDE: The actual level of sea water resulting from the astronomic tide combined with the storm surge. Most National Weather Service flood statements, watches and warnings report this value.

All definitions adapted from the National Weather Service glossary and the National Oceanographic and Atmospheric Administration tidal datum glossary.

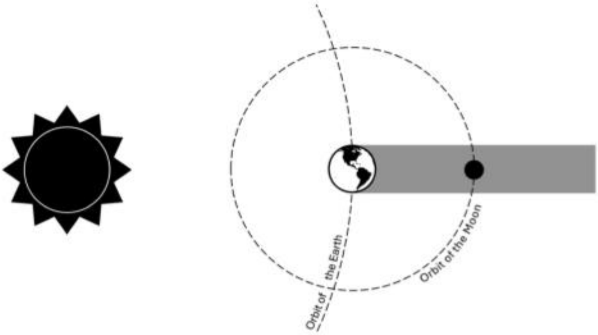
astronomy

for people who look to the skies

The March 14 Blood Moon Lunar Eclipse

On the night of March 13/14, 2025, skywatchers in the Americas will observe a total lunar eclipse. Also known as a "blood moon" due to its red hue, the moon will dim and take on a reddish tint over the course of the night in a spectacular display.

During a total lunar eclipse, the moon falls fully within the Earth's shadow. This occurs when the moon aligns exactly with the sun and Earth in a straight line, blocking direct sunlight. Only light that filters through the Earth's atmosphere reaches the moon. This light is scattered, with the blue portion scattered the most and the red portion reaching the moon. This effect, known as Rayleigh scattering, also is responsible for the red hue of sunsets.



When to view? The eclipse will be visible throughout the night of March 13 and early morning of March 14. The Earth's shadow is made up of an outer part called the penumbra, and an inner part called the umbra. The penumbra is the part of the shadow in which sunlight is partially obscured by the Earth, while in the umbra the Earth completely blocks the sun. When the moon enters the penumbra, it will begin to darken, but won't turn noticeably red until it enters the umbra. Once it is totally within the umbra is when it will achieve its reddest color.

	PDT	MDT	CDT	EDT
P1	8:57:24 PM	9:57:24 PM	10:57:24 PM	11:57:24 PM
U1	10:09:33 PM	11:09:33 PM	12:09:33 AM	1:09:33 AM
U2	11:25:59 PM	12:25:59 AM	1:25:59 AM	2:25:59 AM
Peak	11:54:33 PM	12:54:33 AM	1:54:33 AM	2:54:33 AM
U3	12:31:23 AM	1:31:23 AM	2:31:23 AM	3:31:23 AM
U4	1:47:48 AM	2:47:48 AM	3:47:48 AM	4:47:48 AM
P4	3:00:01 AM	4:00:01 AM	5:00:01 AM	6:00:01 AM

P1: Moon enters penumbra, dimming slightly.
U1: Moon enters umbra, turning red.
U2: Moon fully in umbra, starting totality.
Peak: Peak of the total eclipse. Moon at darkest red.
U3: Moon begins to exit umbra.
U4: Moon exits umbra.
P4: Moon fully exits penumbra.

Viewing tips: Find a location with a clear view of the eastern horizon. Refer to the table for the best time to observe and try to catch the peak of the eclipse. Unlike solar eclipses, lunar eclipses are safe to observe with the naked eye.

How to Use Astronomy Calendar Pages

By Kevin N. Ortiz Ceballos, Ph.D. Candidate, Center for Astrophysics | Harvard & Smithsonian

On pages 160 to 207, you'll find tables for every month of 2025 showing the times for sunrise, sunset, moonrise and moonset as seen from a number of cities across the continental United States. These tables also include the length of day for each city, and the phase of the moon for every date.

For users who reside elsewhere than the listed cities, simply refer to the nearest city within your time zone. (A map with time zones and cities accompanies the table for each month.) These cities have been chosen to make sure that there are not more than a couple of minutes of variance from actual times when using this almanac from any part of the continental U.S.

Daylight saving times are accounted for throughout the year. In the U.S., daylight savings begins March 9 at 2 a.m., with clocks turning forward one hour to 3 a.m. local time immediately. Sunrise and sunset occur an hour later March 9 than they did the day before, adding light to the evenings. Daylight saving runs until November 2 at 2 a.m., when clocks turn backward one hour to 1 a.m. local time. Sunrise and sunset then occur an hour earlier on November 2 than they did the day before, adding light to the mornings. Arizona does not observe daylight savings, so the times shown in the tables for Phoenix never include daylight saving corrections.

The phases of the moon are indicated on the tables with symbols representing the illuminated fraction of the moon for each phase. A key is given right.

PHASE OF THE MOON	SYMBOL
NEW MOON	🌑
WAXING CRESCENT	🌒
FIRST QUARTER	🌓
WAXING GIBBOUS	🌔
FULL MOON	🌕
WANING GIBBOUS	🌖
LAST QUARTER	🌗
WANING CRESCENT	🌘

In some cases within the tables, a moonrise or moonset time is marked by a dash instead of a time. This occurs when there is no moonrise or moonset within the 24-hour period of the date indicated. Generally, when no moonrise is given, it's because the moon was already visible in the sky when the date began at midnight. Likewise, when no moonset is given, it's generally because the moon rises and remains up until the next day, when it sets at the moonset time listed for the following date.

Length of day is given for each city and date listed. At the yearly equinoxes, days are equally long for all cities, at around 12 hours long. The summer brings longer days, peaking at the summer solstice, and the winter brings shorter days, peaking at the winter solstice. Northern locations will undergo a more pronounced effect in the change of length of day. Solstices and equinoxes are included right for reference.

SOLSTICE OR EQUINOX	DATE
SPRING EQUINOX	MARCH 20 AT 5:01 AM EDT
SUMMER SOLSTICE	JUNE 20 AT 10:42 PM EDT
AUTUMN EQUINOX	SEPTEMBER 22 AT 2:19 PM EDT
WINTER SOLSTICE	DECEMBER 21 AT 10:03 AM EDT

January

Pacific Time
Mountain Time
Central Time
Eastern Time
Seattle
Billings
Minneapolis
Chicago
Salt Lake City
Denver
Kansas City
New York
Richmond
Los Angeles
Phoenix
Memphis
Atlanta
San Antonio
Orlando

January begins with the Quadrantids meteor shower in the first week of the month, which peaks on the 4th. Look for the planet Venus on the 10th —it will be at its greatest eastern elongation, and thus at its highest point on the horizon in the evening sky. On the 16th, Mars will be at opposition, its closest distance to Earth. This will be the Red Planet's brightest moment of the year to observe.

D. = Day of the Month P. = Phase of the Moon LOD = Length of Day *Bold indicates PM time

D.	P.	NEW YORK CITY					RICHMOND					ATLANTA				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	🌒	07:20	**04:40**	09:01	**06:27**	9H20M	07:25	**05:03**	09:05	**06:51**	9H38M	07:42	**05:40**	09:22	**07:31**	9H58M
2	🌒	07:20	**04:41**	09:35	**07:41**	9H21M	07:25	**05:03**	09:41	**08:03**	9H38M	07:43	**05:41**	10:01	**08:40**	9H58M
3	🌒	07:20	**04:41**	10:04	**08:55**	9H21M	07:25	**05:04**	10:12	**09:14**	9H39M	07:43	**05:42**	10:35	**09:48**	9H59M
4	🌒	07:20	**04:42**	10:28	**10:07**	9H22M	07:25	**05:05**	10:39	**10:23**	9H40M	07:43	**05:43**	11:05	**10:54**	10H0M
5	🌒	07:20	**04:43**	10:52	**11:19**	9H23M	07:25	**05:06**	11:05	**11:33**	9H41M	07:43	**05:44**	11:33	–	10H1M
6	🌓	07:20	**04:44**	11:15	–	9H24M	07:25	**05:07**	11:31	–	9H42M	07:43	**05:44**	**12:01**	12:01	10H1M
7	🌔	07:20	**04:45**	11:39	12:32	9H25M	07:25	**05:08**	11:58	12:43	9H43M	07:43	**05:45**	**12:32**	01:08	10H2M
8	🌔	07:20	**04:46**	**12:07**	01:47	9H26M	07:25	**05:09**	**12:29**	01:55	9H44M	07:43	**05:46**	**01:05**	02:17	10H3M
9	🌔	07:20	**04:47**	**12:41**	03:03	9H27M	07:25	**05:10**	**01:05**	03:08	9H45M	07:43	**05:47**	**01:45**	03:28	10H4M
10	🌔	07:19	**04:48**	**01:24**	04:20	9H29M	07:24	**05:11**	**01:50**	04:23	9H47M	07:43	**05:48**	**02:31**	04:40	10H5M
11	🌔	07:19	**04:49**	**02:16**	05:32	9H30M	07:24	**05:12**	**02:44**	05:34	9H48M	07:43	**05:49**	**03:26**	05:49	10H6M
12	🌔	07:19	**04:50**	**03:19**	06:36	9H31M	07:24	**05:13**	**03:46**	06:37	9H49M	07:43	**05:50**	**04:29**	06:52	10H7M
13	🌕	07:19	**04:52**	**04:28**	07:28	9H33M	07:24	**05:14**	**04:54**	07:30	9H50M	07:43	**05:51**	**05:36**	07:46	10H8M
14	🌖	07:18	**04:53**	**05:39**	08:10	9H35M	07:24	**05:15**	**06:03**	08:13	9H51M	07:42	**05:51**	**06:43**	08:31	10H9M
15	🌖	07:18	**04:54**	**06:49**	08:42	9H36M	07:23	**05:16**	**07:11**	08:48	9H53M	07:42	**05:52**	**07:47**	09:08	10H10M
16	🌖	07:17	**04:55**	**07:56**	09:08	9H38M	07:23	**05:17**	**08:15**	09:16	9H54M	07:42	**05:53**	**08:49**	09:39	10H11M
17	🌖	07:17	**04:56**	**08:59**	09:30	9H39M	07:22	**05:18**	**09:16**	09:41	9H56M	07:42	**05:54**	**09:47**	10:06	10H12M
18	🌖	07:16	**04:57**	**10:00**	09:50	9H41M	07:22	**05:19**	**10:14**	10:03	9H57M	07:41	**05:55**	**10:43**	10:30	10H14M
19	🌖	07:16	**04:58**	**11:00**	10:09	9H42M	07:22	**05:20**	**11:12**	10:24	9H58M	07:41	**05:56**	**11:39**	10:53	10H15M
20	🌖	07:15	**04:59**	–	10:28	9H44M	07:21	**05:21**	–	10:45	10H0M	07:41	**05:57**	–	11:17	10H16M
21	🌗	07:15	**05:01**	12:01	10:48	9H46M	07:21	**05:22**	12:11	11:08	10H1M	07:40	**05:58**	12:34	11:42	10H18M
22	🌘	07:14	**05:02**	01:03	11:12	9H48M	07:20	**05:23**	01:10	11:33	10H3M	07:40	**05:59**	01:32	**12:10**	10H19M
23	🌘	07:13	**05:03**	02:06	11:40	9H50M	07:19	**05:24**	02:11	**12:03**	10H5M	07:39	**06:00**	02:30	**12:42**	10H21M
24	🌘	07:13	**05:04**	03:11	**12:14**	9H51M	07:19	**05:25**	03:14	**12:40**	10H6M	07:39	**06:01**	03:31	**01:21**	10H22M
25	🌘	07:12	**05:05**	04:15	**12:57**	9H53M	07:18	**05:26**	04:17	**01:24**	10H8M	07:38	**06:02**	04:32	**02:07**	10H24M
26	🌘	07:11	**05:07**	05:16	**01:51**	9H56M	07:18	**05:27**	05:17	**02:19**	10H9M	07:38	**06:03**	05:32	**03:02**	10H25M
27	🌘	07:10	**05:08**	06:10	**02:56**	9H58M	07:17	**05:29**	06:12	**03:22**	10H12M	07:37	**06:04**	06:27	**04:05**	10H27M
28	🌘	07:09	**05:09**	06:56	**04:07**	10H0M	07:16	**05:30**	06:59	**04:33**	10H14M	07:37	**06:05**	07:15	**05:13**	10H28M
29	🌑	07:08	**05:10**	07:34	**05:23**	10H2M	07:15	**05:31**	07:39	**05:46**	10H16M	07:36	**06:06**	07:57	**06:24**	10H30M
30	🌒	07:08	**05:12**	08:05	**06:39**	10H4M	07:15	**05:32**	08:12	**06:59**	10H17M	07:35	**06:07**	08:34	**07:34**	10H32M
31	🌒	07:07	**05:13**	08:31	**07:54**	10H6M	07:14	**05:33**	08:41	**08:11**	10H19M	07:35	**06:08**	09:06	**08:43**	10H33M

D.	P.	ORLANDO					MINNEAPOLIS					CHICAGO				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	🌒	07:18	**05:40**	08:56	**07:31**	10H22M	07:51	**04:43**	09:36	**06:34**	8H52M	07:18	**04:31**	09:01	**06:21**	9H13M
2	🌒	07:18	**05:41**	09:38	**08:37**	10H23M	07:51	**04:44**	10:06	**07:52**	8H53M	07:18	**04:31**	09:34	**07:36**	9H13M
3	🌒	07:19	**05:42**	10:15	**09:41**	10H23M	07:51	**04:45**	10:30	**09:09**	8H54M	07:18	**04:32**	10:01	**08:50**	9H14M
4	🌒	07:19	**05:43**	10:49	**10:44**	10H24M	07:51	**04:46**	10:51	**10:26**	8H55M	07:18	**04:33**	10:25	**10:04**	9H15M
5	🌒	07:19	**05:43**	11:20	**11:47**	10H24M	07:51	**04:47**	11:10	**11:42**	8H56M	07:18	**04:34**	10:47	**11:17**	9H16M
6	◐	07:19	**05:44**	11:52	–	10H25M	07:51	**04:48**	11:29	–	8H57M	07:18	**04:35**	11:09	–	9H17M
7	🌔	07:19	**05:45**	**12:26**	12:50	10H26M	07:51	**04:49**	11:50	12:59	8H58M	07:18	**04:36**	11:33	12:31	9H18M
8	🌔	07:19	**05:46**	**01:03**	01:56	10H27M	07:50	**04:50**	**12:15**	02:18	9H0M	07:18	**04:37**	**12:00**	01:47	9H19M
9	🌔	07:19	**05:46**	**01:45**	03:03	10H27M	07:50	**04:51**	**12:45**	03:39	9H1M	07:18	**04:38**	**12:33**	03:04	9H20M
10	🌔	07:19	**05:47**	**02:34**	04:12	10H28M	07:50	**04:52**	**01:24**	04:59	9H2M	07:17	**04:39**	**01:15**	04:22	9H22M
11	🌔	07:19	**05:48**	**03:31**	05:20	10H29M	07:49	**04:53**	**02:16**	06:13	9H4M	07:17	**04:40**	**02:08**	05:34	9H23M
12	🌔	07:19	**05:49**	**04:33**	06:23	10H30M	07:49	**04:55**	**03:19**	07:17	9H6M	07:17	**04:42**	**03:11**	06:38	9H25M
13	○	07:19	**05:50**	**05:38**	07:18	10H31M	07:48	**04:56**	**04:31**	08:06	9H8M	07:16	**04:43**	**04:21**	07:29	9H27M
14	🌖	07:19	**05:50**	**06:42**	08:05	10H31M	07:48	**04:57**	**05:46**	08:44	9H9M	07:16	**04:44**	**05:33**	08:09	9H28M
15	🌖	07:19	**05:51**	**07:44**	08:45	10H32M	07:47	**04:58**	**06:59**	09:12	9H11M	07:15	**04:45**	**06:43**	08:41	9H30M
16	🌖	07:19	**05:52**	**08:42**	09:19	10H33M	07:47	**05:00**	**08:09**	09:35	9H13M	07:15	**04:46**	**07:51**	09:06	9H31M
17	🌖	07:19	**05:53**	**09:38**	09:49	10H34M	07:46	**05:01**	**09:16**	09:53	9H15M	07:14	**04:47**	**08:55**	09:27	9H33M
18	🌖	07:19	**05:54**	**10:31**	10:16	10H35M	07:46	**05:02**	**10:21**	10:10	9H16M	07:14	**04:49**	**09:57**	09:46	9H35M
19	🌖	07:18	**05:55**	**11:23**	10:43	10H37M	07:45	**05:03**	**11:24**	10:25	9H18M	07:13	**04:50**	**10:58**	10:04	9H37M
20	🌖	07:18	**05:55**	–	11:09	10H37M	07:44	**05:05**	–	10:41	9H21M	07:13	**04:51**	**11:59**	10:22	9H38M
21	◑	07:18	**05:56**	12:16	11:37	10H38M	07:43	**05:06**	12:28	10:58	9H23M	07:12	**04:52**	–	10:42	9H40M
22	🌘	07:18	**05:57**	01:10	**12:08**	10H39M	07:42	**05:07**	01:34	11:18	9H25M	07:11	**04:53**	01:02	11:04	9H42M
23	🌘	07:17	**05:58**	02:06	**12:43**	10H41M	07:42	**05:09**	02:41	11:43	9H27M	07:11	**04:55**	02:06	11:31	9H44M
24	🌘	07:17	**05:59**	03:04	**01:23**	10H42M	07:41	**05:10**	03:49	**12:15**	9H29M	07:10	**04:56**	03:12	**12:05**	9H46M
25	🌘	07:17	**06:00**	04:03	**02:11**	10H43M	07:40	**05:12**	04:56	**12:57**	9H32M	07:09	**04:57**	04:17	**12:48**	9H48M
26	🌘	07:16	**06:00**	05:02	**03:07**	10H44M	07:39	**05:13**	05:57	**01:51**	9H34M	07:08	**04:58**	05:18	**01:43**	9H50M
27	🌘	07:16	**06:01**	05:58	**04:08**	10H45M	07:38	**05:14**	06:50	**02:57**	9H36M	07:07	**05:00**	06:12	**02:48**	9H53M
28	🌘	07:15	**06:02**	06:48	**05:14**	10H47M	07:37	**05:16**	07:33	**04:12**	9H39M	07:06	**05:01**	06:56	**04:00**	9H55M
29	●	07:15	**06:03**	07:33	**06:22**	10H48M	07:36	**05:17**	08:06	**05:32**	9H41M	07:06	**05:02**	07:33	**05:17**	9H56M
30	🌒	07:14	**06:04**	08:13	**07:29**	10H50M	07:35	**05:19**	08:33	**06:52**	9H44M	07:05	**05:04**	08:03	**06:34**	9H59M
31	🌒	07:14	**06:05**	08:48	**08:34**	10H51M	07:34	**05:20**	08:55	**08:11**	9H46M	07:04	**05:05**	08:28	**07:50**	10H1M

D.	P.	KANSAS CITY					MEMPHIS					SAN ANTONIO				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	🌒	07:38	**05:07**	09:20	**06:59**	9H29M	07:09	**04:59**	08:50	**06:51**	9H50M	07:29	**05:47**	09:09	**07:41**	10H18M
2	🌒	07:38	**05:08**	09:55	**08:12**	9H30M	07:09	**05:00**	09:27	**08:01**	9H51M	07:29	**05:48**	09:50	**08:47**	10H19M
3	🌒	07:38	**05:08**	10:25	**09:24**	9H30M	07:09	**05:01**	10:00	**09:10**	9H52M	07:29	**05:48**	10:26	**09:52**	10H19M
4	🌒	07:38	**05:09**	10:51	**10:35**	9H31M	07:09	**05:02**	10:29	**10:17**	9H53M	07:29	**05:49**	10:59	**10:55**	10H20M
5	🌒	07:38	**05:10**	11:15	**11:45**	9H32M	07:09	**05:03**	10:56	**11:25**	9H54M	07:29	**05:50**	11:30	**11:59**	10H21M
6	◐	07:38	**05:11**	11:39	–	9H33M	07:09	**05:04**	11:24	–	9H55M	07:30	**05:51**	**12:02**	–	10H21M
7	🌔	07:38	**05:12**	**12:05**	12:57	9H34M	07:09	**05:04**	11:53	12:33	9H55M	07:30	**05:52**	**12:35**	01:03	10H22M
8	🌔	07:38	**05:13**	**12:35**	02:10	9H35M	07:09	**05:05**	**12:26**	01:43	9H56M	07:30	**05:52**	**01:12**	02:09	10H22M
9	🌔	07:37	**05:14**	**01:11**	03:25	9H37M	07:09	**05:06**	**01:04**	02:55	9H57M	07:30	**05:53**	**01:54**	03:17	10H23M
10	🌔	07:37	**05:15**	**01:55**	04:40	9H38M	07:09	**05:07**	**01:50**	04:08	9H58M	07:30	**05:54**	**02:43**	04:26	10H24M
11	🌔	07:37	**05:16**	**02:49**	05:52	9H39M	07:09	**05:08**	**02:45**	05:17	9H59M	07:30	**05:55**	**03:39**	05:34	10H25M

January

D. = Day of the Month   P. = Phase of the Moon   LOD = Length of Day   *Bold indicates PM time

D.	P.	KANSAS CITY					MEMPHIS					SAN ANTONIO				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
12	◐	07:37	**05:17**	**03:52**	06:55	9H40M	07:09	**05:09**	**03:48**	06:21	10H0M	07:30	**05:56**	**04:42**	06:37	10H26M
13	○	07:36	**05:18**	**05:00**	07:47	9H42M	07:08	**05:10**	**04:55**	07:14	10H2M	07:30	**05:56**	**05:47**	07:32	10H26M
14	◑	07:36	**05:19**	**06:11**	08:29	9H43M	07:08	**05:11**	**06:03**	07:58	10H3M	07:29	**05:57**	**06:52**	08:18	10H28M
15	◑	07:36	**05:20**	**07:19**	09:02	9H44M	07:08	**05:12**	**07:08**	08:34	10H4M	07:29	**05:58**	**07:54**	08:57	10H29M
16	◑	07:35	**05:21**	**08:24**	09:29	9H46M	07:08	**05:13**	**08:10**	09:04	10H5M	07:29	**05:59**	**08:52**	09:30	10H30M
17	◑	07:35	**05:23**	**09:26**	09:52	9H48M	07:07	**05:14**	**09:10**	09:30	10H7M	07:29	**06:00**	**09:48**	09:59	10H31M
18	◑	07:34	**05:24**	**10:26**	10:13	9H50M	07:07	**05:15**	**10:07**	09:53	10H8M	07:29	**06:01**	**10:42**	10:26	10H32M
19	◑	07:34	**05:25**	**11:25**	10:33	9H51M	07:07	**05:16**	**11:03**	10:16	10H9M	07:29	**06:01**	**11:35**	10:52	10H32M
20	◑	07:33	**05:26**	–	10:53	9H53M	07:06	**05:17**	–	10:39	10H11M	07:28	**06:02**	–	11:18	10H34M
21	◑	07:33	**05:27**	12:24	11:15	9H54M	07:06	**05:18**	12:00	11:03	10H12M	07:28	**06:03**	12:28	11:46	10H35M
22	◑	07:32	**05:28**	01:25	11:39	9H56M	07:05	**05:19**	12:58	11:30	10H14M	07:28	**06:04**	01:22	**12:16**	10H36M
23	◑	07:32	**05:29**	02:27	**12:09**	9H57M	07:05	**05:20**	01:57	**12:02**	10H15M	07:27	**06:05**	02:19	**12:51**	10H38M
24	◑	07:31	**05:30**	03:31	**12:45**	9H59M	07:04	**05:21**	02:59	**12:40**	10H17M	07:27	**06:06**	03:18	**01:32**	10H39M
25	◑	07:30	**05:32**	04:34	**01:29**	10H2M	07:04	**05:22**	04:01	**01:25**	10H18M	07:27	**06:07**	04:17	**02:19**	10H40M
26	◑	07:30	**05:33**	05:35	**02:24**	10H3M	07:03	**05:23**	05:00	**02:20**	10H20M	07:26	**06:07**	05:16	03:15	10H41M
27	◑	07:29	**05:34**	06:29	**03:28**	10H5M	07:02	**05:24**	05:55	**03:24**	10H22M	07:26	**06:08**	06:11	**04:17**	10H42M
28	◑	07:28	**05:35**	07:15	**04:40**	10H7M	07:02	**05:25**	06:43	**04:33**	10H23M	07:25	**06:09**	07:01	**05:24**	10H44M
29	●	07:27	**05:36**	07:53	**05:54**	10H9M	07:01	**05:26**	07:24	**05:44**	10H25M	07:25	**06:10**	07:46	**06:32**	10H45M
30	◐	07:26	**05:37**	08:25	**07:08**	10H11M	07:00	**05:27**	07:59	**06:56**	10H27M	07:24	**06:11**	08:24	**07:39**	10H47M
31	◐	07:25	**05:39**	08:53	**08:22**	10H14M	07:00	**05:28**	08:30	**08:06**	10H28M	07:24	**06:12**	08:59	**08:45**	10H48M

D.	P.	BILLINGS					SALT LAKE CITY					DENVER				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	◐	07:55	**04:41**	09:42	**06:35**	8H46M	07:52	**05:11**	09:37	**07:06**	9H19M	07:21	**04:47**	09:05	**06:41**	9H26M
2	◐	07:55	**04:42**	10:10	**07:54**	8H47M	07:52	**05:12**	10:10	**08:21**	9H20M	07:21	**04:47**	09:39	**07:54**	9H26M
3	◐	07:55	**04:43**	10:34	**09:12**	8H48M	07:52	**05:13**	10:38	**09:34**	9H21M	07:21	**04:48**	10:08	**09:06**	9H27M
4	◐	07:55	**04:44**	10:54	**10:29**	8H49M	07:52	**05:14**	11:03	**10:46**	9H22M	07:21	**04:49**	10:34	**10:18**	9H28M
5	◐	07:55	**04:45**	11:12	**11:46**	8H50M	07:52	**05:15**	11:25	**11:58**	9H23M	07:21	**04:50**	10:57	**11:29**	9H29M
6	◐	07:55	**04:46**	11:30	–	8H51M	07:52	**05:16**	11:49	–	9H24M	07:21	**04:51**	11:21	–	9H30M
7	◐	07:54	**04:47**	11:51	01:04	8H53M	07:52	**05:17**	**12:13**	01:12	9H25M	07:21	**04:52**	11:47	12:41	9H31M
8	◐	07:54	**04:48**	**12:14**	02:24	8H54M	07:52	**05:18**	**12:42**	02:26	9H26M	07:21	**04:53**	**12:16**	01:55	9H32M
9	◐	07:54	**04:49**	**12:44**	03:46	8H55M	07:51	**05:19**	**01:17**	03:43	9H28M	07:21	**04:54**	**12:52**	03:11	9H33M
10	◐	07:53	**04:50**	**01:23**	05:07	8H57M	07:51	**05:20**	**02:00**	04:59	9H29M	07:21	**04:55**	**01:35**	04:26	9H34M
11	◐	07:53	**04:52**	**02:15**	06:21	8H59M	07:51	**05:21**	**02:54**	06:11	9H30M	07:20	**04:56**	**02:29**	05:38	9H36M
12	◐	07:53	**04:53**	**03:19**	07:24	9H0M	07:51	**05:22**	**03:57**	07:14	9H31M	07:20	**04:57**	**03:33**	06:41	9H37M
13	○	07:52	**04:54**	**04:31**	08:13	9H2M	07:50	**05:23**	**05:07**	08:05	9H33M	07:20	**04:58**	**04:42**	07:32	9H38M
14	◑	07:52	**04:55**	**05:47**	08:50	9H3M	07:50	**05:24**	**06:18**	08:45	9H34M	07:19	**04:59**	**05:52**	08:13	9H40M
15	◑	07:51	**04:57**	**07:01**	09:17	9H6M	07:49	**05:25**	**07:28**	09:17	9H36M	07:19	**05:00**	**07:01**	08:46	9H41M
16	◑	07:50	**04:58**	**08:12**	09:38	9H8M	07:49	**05:26**	**08:34**	09:42	9H37M	07:19	**05:01**	**08:06**	09:12	9H42M
17	◑	07:50	**04:59**	**09:19**	09:56	9H9M	07:48	**05:28**	**09:37**	10:04	9H40M	07:18	**05:03**	**09:09**	09:35	9H45M
18	◑	07:49	**05:01**	**10:24**	10:11	9H12M	07:48	**05:29**	**10:38**	10:24	9H41M	07:18	**05:04**	**10:09**	09:55	9H46M
19	◑	07:48	**05:02**	**11:29**	10:26	9H14M	07:47	**05:30**	**11:38**	10:42	9H43M	07:17	**05:05**	**11:09**	10:15	9H48M
20	◑	07:47	**05:03**	–	10:42	9H16M	07:47	**05:31**	–	11:02	9H44M	07:17	**05:06**	–	10:35	9H49M

D.	P.	BILLINGS					SALT LAKE CITY					DENVER				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
21	◑	07:47	**05:05**	12:33	10:58	9H18M	07:46	**05:32**	12:39	11:22	9H46M	07:16	**05:07**	12:08	10:56	9H51M
22	◑	07:46	**05:06**	01:40	11:18	9H20M	07:46	**05:33**	01:41	11:46	9H47M	07:15	**05:08**	01:10	11:20	9H53M
23	◑	07:45	**05:08**	02:47	11:42	9H23M	07:45	**05:35**	02:44	**12:14**	9H50M	07:15	**05:09**	02:12	11:49	9H54M
24	◑	07:44	**05:09**	03:56	**12:13**	9H25M	07:44	**05:36**	03:49	**12:49**	9H52M	07:14	**05:11**	03:17	**12:25**	9H57M
25	◑	07:43	**05:10**	05:04	**12:55**	9H27M	07:43	**05:37**	04:54	**01:34**	9H54M	07:13	**05:12**	04:20	**01:09**	9H59M
26	◑	07:42	**05:12**	06:05	**01:50**	9H30M	07:43	**05:38**	05:54	**02:29**	9H55M	07:13	**05:13**	05:21	**02:04**	10H0M
27	◑	07:41	**05:13**	06:57	**02:57**	9H32M	07:42	**05:39**	06:47	**03:34**	9H57M	07:12	**05:14**	06:14	**03:09**	10H2M
28	◑	07:40	**05:15**	07:39	**04:13**	9H35M	07:41	**05:41**	07:32	**04:47**	10H0M	07:11	**05:15**	07:00	**04:21**	10H4M
29	●	07:39	**05:16**	08:11	**05:33**	9H37M	07:40	**05:42**	08:09	**06:02**	10H2M	07:10	**05:16**	07:38	**05:36**	10H6M
30	◐	07:38	**05:18**	08:37	**06:55**	9H40M	07:39	**05:43**	08:39	**07:18**	10H4M	07:09	**05:18**	08:09	**06:51**	10H9M
31	◐	07:36	**05:19**	08:58	**08:15**	9H43M	07:38	**05:44**	09:05	**08:34**	10H6M	07:08	**05:19**	08:36	**08:05**	10H11M

D.	P.	PHOENIX					SEATTLE					LOS ANGELES				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	◐	07:32	**05:32**	09:16	**07:28**	10H0M	07:58	**04:29**	09:46	**06:26**	8H31M	06:59	**04:55**	08:43	**06:52**	9H56M
2	◐	07:33	**05:33**	09:54	**08:36**	10H0M	07:57	**04:30**	10:12	**07:47**	8H33M	06:59	**04:56**	09:20	**08:01**	9H57M
3	◐	07:33	**05:33**	10:27	**09:44**	10H0M	07:57	**04:31**	10:34	**09:07**	8H34M	06:59	**04:57**	09:53	**09:09**	9H58M
4	◐	07:33	**05:34**	10:57	**10:50**	10H1M	**07:57**	**04:32**	10:52	**10:27**	8H35M	06:59	**04:57**	10:23	**10:16**	9H58M
5	◐	07:33	**05:35**	11:26	**11:57**	10H2M	**07:57**	**04:33**	11:08	**11:46**	8H36M	06:59	**04:58**	10:51	**11:23**	9H59M
6	◐	07:33	**05:36**	11:55	–	10H3M	07:57	**04:34**	11:25	–	8H37M	06:59	**04:59**	11:19	–	10H0M
7	◐	07:33	**05:37**	**12:25**	01:04	10H4M	07:56	**04:36**	11:43	01:06	8H40M	06:59	**05:00**	11:50	12:30	10H1M
8	◐	07:33	**05:38**	**12:59**	02:12	10H5M	07:56	**04:37**	**12:05**	02:28	8H41M	06:59	**05:01**	**12:23**	01:39	10H2M
9	◐	07:33	**05:38**	**01:39**	03:23	10H5M	07:56	**04:38**	**12:33**	03:52	8H42M	06:59	**05:02**	**01:03**	02:51	10H3M
10	◐	07:33	**05:39**	**02:27**	04:35	10H6M	07:55	**04:39**	**01:11**	05:14	8H44M	06:59	**05:03**	**01:51**	04:03	10H4M
11	◐	07:33	**05:40**	**03:23**	05:44	10H7M	07:55	**04:40**	**02:02**	06:30	8H45M	06:59	**05:03**	**02:46**	05:12	10H4M
12	◐	07:33	**05:41**	**04:26**	06:46	10H8M	07:54	**04:42**	**03:06**	07:32	8H48M	06:59	**05:04**	**03:50**	06:14	10H5M
13	○	07:33	**05:42**	**05:32**	07:40	10H9M	07:54	**04:43**	**04:20**	08:19	8H49M	06:59	**05:05**	**04:56**	07:07	10H6M
14	◑	07:32	**05:43**	**06:39**	08:24	10H11M	07:53	**04:44**	**05:38**	08:54	8H51M	06:58	**05:06**	**06:03**	07:51	10H8M
15	◑	07:32	**05:44**	**07:43**	09:01	10H12M	07:52	**04:46**	**06:54**	09:19	8H54M	06:58	**05:07**	**07:08**	08:27	10H9M
16	◑	07:32	**05:45**	**08:44**	09:31	10H13M	07:52	**04:47**	**08:06**	09:38	8H55M	06:58	**05:08**	**08:09**	08:57	10H10M
17	◑	07:32	**05:46**	**09:42**	09:58	10H14M	07:51	**04:49**	**09:15**	09:54	8H58M	06:58	**05:09**	**09:08**	09:24	10H11M
18	◑	07:31	**05:47**	**10:38**	10:23	10H16M	07:50	**04:50**	**10:22**	10:08	9H0M	06:57	**05:10**	**10:04**	09:48	10H13M
19	◑	07:31	**05:48**	**11:34**	10:46	10H17M	07:49	**04:51**	**11:28**	10:21	9H2M	06:57	**05:11**	**11:00**	10:11	10H14M
20	◑	07:31	**05:49**	–	11:10	10H18M	07:49	**04:53**	–	10:35	9H4M	06:57	**05:12**	**11:56**	10:34	10H15M
21	◑	07:30	**05:50**	12:29	11:35	10H20M	07:48	**04:54**	12:35	10:50	9H6M	06:56	**05:13**	–	10:59	10H17M
22	◑	07:30	**05:51**	01:26	**12:04**	10H21M	07:47	**04:56**	01:43	11:08	9H9M	06:56	**05:14**	12:53	11:27	10H18M
23	◑	07:29	**05:51**	02:25	**12:36**	10H22M	07:46	**04:57**	02:53	11:31	9H11M	06:55	**05:15**	01:52	**12:00**	10H20M
24	◑	07:29	**05:52**	03:26	**01:16**	10H23M	07:45	**04:59**	04:03	**12:01**	9H14M	06:55	**05:16**	02:53	**12:39**	10H21M
25	◑	07:28	**05:53**	04:27	**02:03**	10H25M	07:44	**05:00**	05:12	**12:42**	9H16M	06:54	**05:17**	03:54	**01:26**	10H23M
26	◑	07:28	**05:54**	05:26	**02:58**	10H26M	07:43	**05:02**	06:13	**01:36**	9H19M	06:54	**05:18**	04:54	**02:22**	10H24M
27	◑	07:27	**05:55**	06:20	**04:02**	10H28M	07:41	**05:03**	07:04	**02:45**	9H22M	06:53	**05:19**	05:48	**03:26**	10H26M
28	◑	07:27	**05:56**	07:09	**05:10**	10H29M	07:40	**05:05**	07:44	**04:03**	9H25M	06:52	**05:20**	06:36	**04:34**	10H28M
29	●	07:26	**05:57**	07:50	**06:21**	10H31M	07:39	**05:07**	08:14	**05:26**	9H28M	06:52	**05:21**	07:17	**05:45**	10H29M
30	◐	07:25	**05:58**	08:26	**07:31**	10H33M	07:38	**05:08**	08:37	**06:49**	9H30M	06:51	**05:22**	07:53	**06:56**	10H31M
31	◐	07:25	**05:59**	08:58	**08:39**	10H34M	07:37	05:10	08:57	08:12	9H33M	06:50	05:23	08:24	08:05	10H33M

February

Worth watching: Venus is the star of the show this month, with a conjunction of the moon and Venus on the 1st, and Venus' highest altitude of its evening apparition for the beginning of the year. Throughout the month, the moon also will make close approaches to Jupiter on the 6th and Mars on the 9th. On the 16th, Venus will reach the greatest brightness of its evening apparition. Make sure to catch a view of Venus during evening twilight, above the direction of the setting Sun.

Pacific Time
Mountain Time
Central Time
Eastern Time
Seattle
Billings
Minneapolis
Chicago
Salt Lake City
Denver
Kansas City
New York
Richmond
Los Angeles
Phoenix
Memphis
Atlanta
San Antonio
Orlando

D. = Day of the Month P. = Phase of the Moon LOD = Length of Day *Bold indicates PM time

D.	P.	NEW YORK CITY					RICHMOND					ATLANTA				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	◐	07:06	**05:14**	08:55	**09:08**	10H8M	07:13	**05:34**	09:08	**09:23**	10H21M	07:34	06:09	09:35	**09:52**	10H35M
2	◐	07:05	**05:15**	09:19	**10:23**	10H10M	07:12	**05:35**	09:34	**10:34**	10H23M	07:33	06:10	10:04	**11:00**	10H37M
3	◐	07:04	**05:17**	09:43	**11:38**	10H13M	07:11	**05:36**	10:01	**11:46**	10H25M	07:32	06:11	10:34	–	10H39M
4	◐	07:03	**05:18**	10:10	–	10H15M	07:10	**05:37**	10:31	–	10H27M	07:32	06:12	11:06	12:09	10H40M
5	◐	07:02	**05:19**	10:42	12:54	10H17M	07:09	**05:39**	11:05	01:00	10H30M	07:31	06:13	11:44	01:20	10H42M
6	◐	07:00	**05:20**	11:21	02:10	10H20M	07:08	**05:40**	11:46	02:13	10H32M	07:30	**06:14**	12:27	02:31	10H44M
7	◐	06:59	**05:22**	12:09	03:22	10H23M	07:07	**05:41**	**12:36**	03:24	10H34M	07:29	**06:15**	01:19	03:40	10H46M
8	◐	06:58	**05:23**	01:07	04:28	10H25M	07:06	**05:42**	**01:35**	04:29	10H36M	07:28	**06:16**	02:18	04:44	10H48M
9	◐	06:57	**05:24**	02:13	05:23	10H27M	07:05	**05:43**	**02:40**	05:24	10H38M	07:27	**06:17**	03:22	05:40	10H50M
10	◐	06:56	**05:25**	03:23	06:07	10H29M	07:04	**05:44**	**03:48**	06:10	10H40M	07:26	**06:18**	04:28	06:27	10H52M
11	◐	06:55	**05:26**	04:33	06:42	10H31M	07:03	**05:45**	**04:55**	06:47	10H42M	07:25	**06:18**	05:33	07:06	10H53M
12	○	06:53	**05:28**	05:40	07:10	10H35M	07:02	**05:46**	**06:00**	07:17	10H44M	07:25	**06:19**	06:35	07:38	10H54M
13	◑	06:52	**05:29**	06:45	07:33	10H37M	07:01	**05:47**	**07:02**	07:43	10H46M	07:24	**06:20**	07:35	08:06	10H56M
14	◑	06:51	**05:30**	07:47	07:54	10H39M	07:00	**05:48**	**08:02**	08:05	10H48M	07:23	**06:21**	08:32	08:32	10H58M
15	◑	06:50	**05:31**	08:48	08:13	10H41M	06:59	**05:49**	**09:01**	08:27	10H50M	07:22	**06:22**	09:28	08:55	11H0M
16	◑	06:48	**05:32**	09:49	08:32	10H44M	06:57	**05:50**	**09:59**	08:48	10H53M	07:20	**06:23**	10:24	09:19	11H3M
17	◑	06:47	**05:34**	10:50	08:51	10H47M	06:56	**05:52**	**10:58**	09:10	10H56M	07:19	**06:24**	11:21	09:43	11H5M
18	◑	06:45	**05:35**	11:52	09:13	10H50M	06:55	**05:53**	**11:58**	09:34	10H58M	07:18	**06:25**	–	10:10	11H7M
19	◑	06:44	**05:36**	–	09:39	10H52M	06:54	**05:54**	–	10:01	11H0M	07:17	**06:26**	12:18	10:40	11H9M
20	◑	06:43	**05:37**	12:56	10:09	10H54M	06:53	**05:55**	01:00	10:34	11H2M	07:16	**06:27**	01:18	11:15	11H11M
21	◑	06:41	**05:38**	02:00	10:48	10H57M	06:51	**05:56**	02:02	11:15	11H5M	07:15	**06:28**	02:18	11:57	11H13M
22	◑	06:40	**05:40**	03:02	11:36	11H0M	06:50	**05:57**	03:03	**12:04**	11H7M	07:14	**06:28**	03:18	**12:47**	11H14M
23	◑	06:38	**05:41**	03:58	**12:35**	11H3M	06:49	**05:58**	03:59	**01:02**	11H9M	07:13	**06:29**	04:14	**01:45**	11H16M
24	◑	06:37	**05:42**	04:47	**01:43**	11H5M	06:47	**05:59**	04:49	**02:09**	11H12M	07:12	**06:30**	05:05	**02:51**	11H18M
25	◑	06:35	**05:43**	05:28	**02:57**	11H8M	06:46	**06:00**	05:32	**03:21**	11H14M	07:10	**06:31**	05:49	**04:00**	11H21M
26	◑	06:34	**05:44**	06:02	**04:13**	11H10M	06:45	**06:01**	06:08	**04:35**	11H16M	07:09	**06:32**	06:28	**05:11**	11H23M
27	◑	06:33	**05:45**	06:31	**05:30**	11H12M	06:43	**06:02**	06:39	**05:49**	11H19M	07:08	**06:33**	07:02	**06:22**	11H25M
28	●	06:31	**05:47**	06:56	**06:47**	11H16M	06:42	**06:03**	07:08	**07:03**	11H21M	07:07	**06:34**	07:34	**07:33**	11H27M

D.	P.	ORLANDO					MINNEAPOLIS					CHICAGO				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	◐	07:13	**06:05**	09:21	**09:39**	10H52M	07:32	**05:22**	09:15	**09:30**	9H50M	07:03	**05:06**	08:51	**09:06**	10H3M
2	◐	07:13	**06:06**	09:54	**10:43**	10H53M	07:31	**05:23**	09:35	**10:48**	9H52M	07:02	**05:07**	09:13	**10:21**	10H5M
3	◐	07:12	**06:07**	10:27	**11:49**	10H55M	07:30	**05:24**	09:55	–	9H54M	07:00	**05:09**	09:37	**11:37**	10H9M
4	◐	07:11	**06:08**	11:03	–	10H57M	07:29	**05:26**	10:18	12:08	9H57M	06:59	**05:10**	10:03	–	10H11M
5	◐	07:11	**06:09**	11:44	12:56	10H58M	07:27	**05:27**	10:46	01:28	10H0M	06:58	**05:11**	10:34	12:54	10H13M
6	☾	07:10	**06:09**	**12:30**	02:04	10H59M	07:26	**05:29**	11:22	02:48	10H3M	06:57	**05:13**	11:12	02:11	10H16M
7	☾	07:09	**06:10**	**01:23**	03:11	11H1M	07:25	**05:30**	**12:09**	04:03	10H5M	06:56	**05:14**	**12:00**	03:25	10H18M
8	☾	07:09	**06:11**	**02:22**	04:14	11H2M	07:23	**05:32**	**01:07**	05:09	10H9M	06:55	**05:15**	**12:59**	04:30	10H20M
9	☾	07:08	**06:12**	**03:25**	05:11	11H4M	07:22	**05:33**	**02:15**	06:02	10H11M	06:54	**05:16**	**02:05**	05:24	10H22M
10	☾	07:07	**06:12**	**04:29**	06:00	11H5M	07:21	**05:35**	**03:28**	06:43	10H14M	06:52	**05:18**	**03:16**	06:07	10H26M
11	☾	07:07	**06:13**	**05:31**	06:42	11H6M	07:19	**05:36**	**04:41**	07:14	10H17M	06:51	**05:19**	**04:27**	06:41	10H28M
12	○	07:06	**06:14**	**06:30**	07:17	11H8M	07:18	**05:37**	**05:52**	07:38	10H19M	06:50	**05:20**	**05:35**	07:08	10H30M
13	☽	07:05	**06:15**	**07:27**	07:49	11H10M	07:16	**05:39**	**07:01**	07:57	10H23M	06:48	**05:21**	**06:40**	07:30	10H33M
14	☽	07:04	**06:15**	**08:21**	08:17	11H11M	07:15	**05:40**	**08:06**	08:14	10H25M	06:47	**05:23**	**07:44**	07:50	10H36M
15	☽	07:03	**06:16**	**09:14**	08:43	11H13M	07:13	**05:42**	**09:11**	08:30	10H29M	06:46	**05:24**	**08:45**	08:08	10H38M
16	☽	07:02	**06:17**	**10:07**	09:10	11H15M	07:12	**05:43**	**10:15**	08:46	10H31M	06:44	**05:25**	**09:47**	08:26	10H41M
17	☽	07:02	**06:18**	**11:00**	09:37	11H16M	07:10	**05:44**	**11:19**	09:02	10H34M	06:43	**05:26**	**10:49**	08:45	10H43M
18	☽	07:01	**06:18**	**11:55**	10:06	11H17M	07:09	**05:46**	–	09:21	10H37M	06:41	**05:28**	**11:52**	09:06	10H47M
19	☽	07:00	**06:19**	–	10:39	11H19M	07:07	**05:47**	12:26	09:43	10H40M	06:40	**05:29**	–	09:30	10H49M
20	◑	06:59	**06:20**	12:52	11:17	11H21M	07:05	**05:49**	01:33	10:11	10H44M	06:39	**05:30**	12:57	10:01	10H51M
21	◑	06:58	**06:20**	01:50	**12:01**	11H22M	07:04	**05:50**	02:40	10:48	10H46M	06:37	**05:31**	02:02	10:39	10H54M
22	◑	06:57	**06:21**	02:48	**12:52**	11H24M	07:02	**05:51**	03:43	11:35	10H49M	06:36	**05:33**	03:04	11:27	10H57M
23	◑	06:56	**06:22**	03:44	**01:50**	11H26M	07:00	**05:53**	04:39	**12:35**	10H53M	06:34	**05:34**	04:00	**12:26**	11H0M
24	◑	06:55	**06:22**	04:37	**02:53**	11H27M	06:59	**05:54**	05:25	**01:45**	10H55M	06:33	**05:35**	04:48	**01:35**	11H2M
25	◑	06:54	**06:23**	05:24	**04:00**	11H29M	06:57	**05:56**	06:03	**03:03**	10H59M	06:31	**05:36**	05:28	**02:50**	11H5M
26	◑	06:53	**06:24**	06:06	**05:08**	11H31M	06:55	**05:57**	06:32	**04:24**	11H2M	06:30	**05:38**	06:01	**04:08**	11H8M
27	◑	06:52	**06:24**	06:43	**06:15**	11H32M	06:54	**05:58**	06:57	**05:46**	11H4M	06:28	**05:39**	06:28	**05:26**	11H11M
28	●	06:51	**06:25**	07:18	**07:22**	11H34M	06:52	**06:00**	07:18	**07:07**	11H8M	06:26	**05:40**	06:52	**06:44**	11H14M

D.	P.	KANSAS CITY					MEMPHIS					SAN ANTONIO				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	◐	07:25	**05:40**	09:18	**09:35**	10H15M	06:59	**05:29**	08:59	**09:15**	10H30M	07:23	**06:12**	09:32	**09:50**	10H49M
2	◐	07:24	**05:41**	09:43	**10:47**	10H17M	06:58	**05:30**	09:27	**10:25**	10H32M	07:22	**06:13**	10:04	**10:56**	10H51M
3	◐	07:23	**05:42**	10:09	–	10H19M	06:57	**05:31**	09:55	**11:35**	10H34M	07:22	**06:14**	10:36	–	10H52M
4	◐	07:22	**05:43**	10:37	12:01	10H21M	06:57	**05:32**	10:27	–	10H35M	07:21	**06:15**	11:12	12:02	10H54M
5	◐	07:21	**05:44**	11:11	01:16	10H23M	06:56	**05:33**	11:03	12:47	10H37M	07:21	**06:16**	11:52	01:09	10H55M
6	☾	07:20	**05:46**	11:52	02:30	10H26M	06:55	**05:34**	11:46	01:59	10H39M	07:20	**06:17**	**12:38**	02:18	10H57M
7	☾	07:19	**05:47**	**12:41**	03:42	10H28M	06:54	**05:35**	**12:37**	03:08	10H41M	07:19	**06:17**	**01:31**	03:25	10H58M
8	☾	07:18	**05:48**	**01:40**	04:47	10H30M	06:53	**05:36**	**01:36**	04:12	10H43M	07:18	**06:18**	**02:31**	04:28	11H0M
9	☾	07:16	**05:49**	**02:46**	05:41	10H33M	06:52	**05:37**	**02:41**	05:08	10H45M	07:18	**06:19**	**03:34**	05:25	11H1M
10	☾	07:15	**05:50**	**03:55**	06:26	10H35M	06:51	**05:38**	**03:48**	05:54	10H47M	07:17	**06:20**	**04:38**	06:13	11H3M

February

D. = Day of the Month P. = Phase of the Moon LOD = Length of Day *Bold indicates PM time

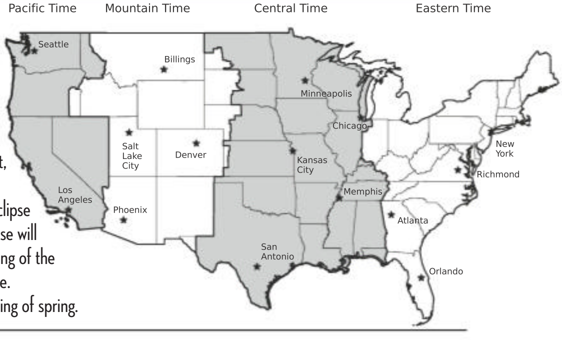
D.	P.	KANSAS CITY					MEMPHIS					SAN ANTONIO				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
11	◐	07:14	**05:51**	**05:03**	07:01	10H37M	06:50	**05:39**	**04:54**	06:32	10H49M	07:16	**06:21**	**05:41**	06:54	11H5M
12	○	07:13	**05:53**	**06:09**	07:30	10H40M	06:49	**05:40**	**05:57**	07:04	10H51M	07:15	**06:21**	**06:40**	07:29	11H6M
13	◑	07:12	**05:54**	**07:12**	07:54	10H42M	06:48	**05:41**	**06:57**	07:31	10H53M	07:14	**06:22**	**07:37**	07:59	11H8M
14	◑	07:11	**05:55**	**08:13**	08:16	10H44M	06:47	**05:42**	**07:55**	07:55	10H55M	07:14	**06:23**	**08:32**	08:27	11H9M
15	◑	07:09	**05:56**	**09:13**	08:36	10H47M	06:46	**05:43**	**08:52**	08:18	10H57M	07:13	**06:24**	**09:25**	08:53	11H11M
16	◑	07:08	**05:57**	**10:12**	08:56	10H49M	06:45	**05:44**	**09:49**	08:41	10H59M	07:12	**06:24**	**10:18**	09:19	11H12M
17	◑	07:07	**05:58**	**11:12**	09:17	10H51M	06:44	**05:45**	**10:46**	09:04	11H1M	07:11	**06:25**	**11:12**	09:46	11H14M
18	◑	07:06	**05:59**	–	09:40	10H53M	06:43	**05:46**	**11:45**	09:30	11H3M	07:10	**06:26**	–	10:15	11H16M
19	◑	07:04	**06:00**	12:14	10:07	10H56M	06:41	**05:47**	–	09:59	11H6M	07:09	**06:27**	12:08	10:47	11H18M
20	◑	07:03	**06:02**	01:17	10:39	10H59M	06:40	**05:48**	12:45	10:34	11H8M	07:08	**06:27**	01:05	11:25	11H19M
21	◑	07:02	**06:03**	02:19	11:19	11H1M	06:39	**05:49**	01:46	11:15	11H10M	07:07	**06:28**	02:04	**12:09**	11H21M
22	◑	07:00	**06:04**	03:20	**12:08**	11H4M	06:38	**05:50**	02:46	12:05	11H12M	07:06	**06:29**	03:02	**01:00**	11H23M
23	◑	06:59	**06:05**	04:17	**01:08**	11H6M	06:37	**05:51**	03:42	01:04	11H14M	07:05	**06:30**	03:58	**01:58**	11H25M
24	◑	06:57	**06:06**	05:06	**02:15**	11H9M	06:36	**05:52**	04:33	02:10	11H16M	07:04	**06:30**	04:50	**03:02**	11H26M
25	◑	06:56	**06:07**	05:47	**03:28**	11H11M	06:34	**05:52**	05:17	03:20	11H18M	07:03	**06:31**	05:36	**04:10**	11H28M
26	◑	06:55	**06:08**	06:22	**04:44**	11H13M	06:33	**05:53**	05:54	04:32	11H20M	07:02	**06:32**	06:18	**05:18**	11H30M
27	◑	06:53	**06:09**	06:52	**05:59**	11H16M	06:32	**05:54**	06:28	05:45	11H22M	07:01	**06:32**	06:55	**06:26**	11H31M
28	●	06:52	**06:10**	07:19	**07:14**	11H18M	06:31	**05:55**	06:58	06:56	11H24M	07:00	**06:33**	07:29	**07:33**	11H33M

D.	P.	BILLINGS					SALT LAKE CITY					DENVER				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	◐	07:35	**05:21**	09:17	**09:34**	9H46M	07:37	**05:46**	09:29	09:48	10H9M	07:07	**05:20**	09:01	**09:19**	10H13M
2	◐	07:34	**05:22**	09:36	**10:53**	9H48M	07:36	**05:47**	09:53	11:02	10H11M	07:06	**05:21**	09:25	**10:32**	10H15M
3	◐	07:33	**05:24**	09:56	–	9H51M	07:35	**05:48**	10:17	–	10H13M	07:05	**05:22**	09:50	**11:46**	10H17M
4	◐	07:31	**05:25**	10:18	12:14	9H54M	07:34	**05:49**	10:44	12:17	10H15M	07:04	**05:24**	10:19	–	10H20M
5	◐	07:30	**05:26**	10:46	01:35	9H56M	07:33	**05:51**	11:17	01:33	10H18M	07:03	**05:25**	10:52	01:01	10H22M
6	◐	07:29	**05:28**	11:21	02:56	9H59M	07:32	**05:52**	11:57	02:49	10H20M	07:02	**05:26**	11:32	02:16	10H24M
7	◐	07:27	**05:29**	**12:07**	04:11	10H2M	07:31	**05:53**	**12:46**	04:02	10H22M	07:01	**05:27**	**12:22**	03:28	10H26M
8	◐	07:26	**05:31**	**01:06**	05:17	10H5M	07:30	**05:54**	**01:45**	05:06	10H24M	07:00	**05:28**	**01:21**	04:33	10H28M
9	◐	07:25	**05:32**	**02:15**	06:09	10H7M	07:28	**05:56**	**02:52**	06:00	10H28M	06:59	**05:30**	**02:27**	05:27	10H31M
10	◐	07:23	**05:34**	**03:28**	06:49	10H11M	07:27	**05:57**	**04:02**	06:43	10H30M	06:58	**05:31**	**03:36**	06:11	10H33M
11	◐	07:22	**05:35**	**04:43**	07:19	10H13M	07:26	**05:58**	**05:11**	07:17	10H32M	06:57	**05:32**	**04:45**	06:46	10H35M
12	○	07:20	**05:37**	**05:54**	07:42	10H17M	07:25	**05:59**	**06:19**	07:44	10H34M	06:56	**05:33**	**05:51**	07:14	10H37M
13	◑	07:19	**05:38**	**07:03**	08:00	10H19M	07:24	**06:00**	**07:23**	08:07	10H36M	06:54	**05:34**	**06:55**	07:38	10H40M
14	◑	07:17	**05:40**	**08:10**	08:17	10H23M	07:22	**06:02**	**08:25**	08:27	10H40M	06:53	**05:35**	**07:57**	07:59	10H42M
15	◑	07:16	**05:41**	**09:15**	08:32	10H25M	07:21	**06:03**	**09:26**	08:46	10H42M	06:52	**05:37**	**08:57**	08:18	10H45M
16	◑	07:14	**05:43**	**10:20**	08:47	10H29M	07:20	**06:04**	**10:27**	09:05	10H44M	06:51	**05:38**	**09:56**	08:38	10H47M
17	◑	07:12	**05:44**	**11:25**	09:02	10H32M	07:18	**06:05**	**11:28**	09:25	10H47M	06:49	**05:39**	**10:57**	08:58	10H50M
18	◑	07:11	**05:46**	–	09:20	10H35M	07:17	**06:06**	–	09:47	10H49M	06:48	**05:40**	**11:59**	09:21	10H52M

D.	P.	BILLINGS					SALT LAKE CITY					DENVER				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
19	◑	07:09	**05:47**	12:32	09:42	10H38M	07:16	**06:08**	12:31	10:13	10H52M	06:47	**05:41**	–	09:48	10H54M
20	◑	07:07	**05:48**	01:40	10:10	10H41M	07:14	**06:09**	01:35	10:44	10H55M	06:45	**05:42**	01:02	10:20	10H57M
21	◑	07:06	**05:50**	02:47	10:46	10H44M	07:13	**06:10**	02:38	11:24	10H57M	06:44	**05:44**	02:05	11:00	11H0M
22	◑	07:04	**05:51**	03:51	11:34	10H47M	07:11	**06:11**	03:40	**12:13**	11H0M	06:43	**05:45**	03:06	11:49	11H2M
23	◑	07:02	**05:53**	04:46	**12:34**	10H51M	07:10	**06:12**	04:35	**01:13**	11H2M	06:41	**05:46**	04:02	**12:48**	11H5M
24	◑	07:01	**05:54**	05:32	**01:46**	10H53M	07:08	**06:13**	05:24	**02:22**	11H5M	06:40	**05:47**	04:51	**01:57**	11H7M
25	◑	06:59	**05:56**	06:08	**03:05**	10H57M	07:07	**06:15**	06:04	**03:36**	11H8M	06:38	**05:48**	05:32	**03:10**	11H10M
26	◑	06:57	**05:57**	06:37	**04:27**	11H0M	07:05	**06:16**	06:37	**04:53**	11H11M	06:37	**05:49**	06:06	**04:26**	11H12M
27	◑	06:55	**05:58**	07:00	**05:49**	11H3M	07:04	**06:17**	07:05	**06:10**	11H13M	06:35	**05:50**	06:35	**05:42**	11H15M
28	●	06:54	**06:00**	07:20	**07:11**	11H6M	07:02	**06:18**	07:30	**07:27**	11H16M	06:34	**05:51**	07:02	**06:58**	11H17M

D.	P.	PHOENIX					SEATTLE					LOS ANGELES				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	◐	07:24	**06:00**	09:28	**09:48**	10H36M	07:35	**05:11**	09:14	**09:33**	9H36M	06:50	**05:24**	08:53	09:13	10H34M
2	◐	07:23	**06:01**	09:57	**10:56**	10H38M	07:34	**05:13**	09:31	**10:54**	9H39M	06:49	**05:25**	09:22	**10:22**	10H36M
3	◐	07:23	**06:02**	10:27	–	10H39M	07:33	**05:14**	09:48	–	9H41M	06:48	**05:26**	09:52	**11:32**	10H38M
4	◐	07:22	**06:03**	11:00	12:05	10H41M	07:31	**05:16**	10:09	12:17	9H45M	06:47	**05:27**	10:25	–	10H40M
5	◐	07:21	**06:04**	11:38	01:15	10H43M	07:30	**05:18**	10:35	01:40	9H48M	06:47	**05:28**	11:02	12:42	10H41M
6	◐	07:20	**06:05**	**12:23**	02:26	10H45M	07:28	**05:19**	11:09	03:03	9H51M	06:46	**05:29**	11:46	01:54	10H43M
7	◐	07:19	**06:06**	**01:15**	03:35	10H47M	07:27	**05:21**	11:54	04:20	9H54M	06:45	**05:30**	**12:38**	03:03	10H45M
8	◐	07:18	**06:07**	**02:14**	04:38	10H49M	07:25	**05:22**	**12:53**	05:25	9H57M	06:44	**05:31**	**01:38**	04:06	10H47M
9	◐	07:18	**06:08**	**03:19**	05:33	10H50M	07:24	**05:24**	**02:03**	06:16	10H0M	06:43	**05:32**	**02:43**	05:01	10H49M
10	◐	07:17	**06:09**	**04:25**	06:20	10H52M	07:22	**05:25**	**03:19**	06:54	10H3M	06:42	**05:33**	**03:49**	05:47	10H51M
11	◐	07:16	**06:10**	**05:29**	06:59	10H54M	07:21	**05:27**	**04:35**	07:21	10H6M	06:41	**05:34**	**04:54**	06:25	10H53M
12	○	07:15	**06:11**	**06:31**	07:31	10H56M	07:19	**05:29**	**05:48**	07:42	10H10M	06:40	**05:34**	**05:56**	06:57	10H54M
13	◑	07:14	**06:11**	**07:30**	07:59	10H57M	07:17	**05:30**	**06:59**	07:59	10H13M	06:39	**05:35**	**06:56**	07:25	10H56M
14	◑	07:13	**06:12**	**08:27**	08:24	10H59M	07:16	**05:32**	**08:07**	08:14	10H16M	06:38	**05:36**	**07:53**	07:49	10H58M
15	◑	07:12	**06:13**	**09:23**	08:48	11H1M	07:14	**05:33**	**09:14**	08:27	10H19M	06:37	**05:37**	**08:49**	08:13	11H0M
16	◑	07:11	**06:14**	**10:19**	09:12	11H3M	07:12	**05:35**	**10:20**	08:40	10H23M	06:36	**05:38**	**09:45**	08:36	11H2M
17	◑	07:10	**06:15**	**11:15**	09:36	11H5M	07:11	**05:36**	**11:28**	08:55	10H25M	06:35	**05:39**	**10:42**	09:00	11H4M
18	◑	07:09	**06:16**	–	10:03	11H7M	07:09	**05:38**	–	09:11	10H29M	06:34	**05:40**	**11:40**	09:27	11H6M
19	◑	07:08	**06:17**	12:13	10:33	11H9M	07:07	**05:40**	12:37	09:32	10H33M	06:33	**05:41**	–	09:57	11H8M
20	◑	07:06	**06:18**	01:12	11:09	11H12M	07:05	**05:41**	01:46	09:58	10H36M	06:32	**05:42**	12:40	10:33	11H10M
21	◑	07:05	**06:19**	02:12	11:52	11H14M	07:04	**05:43**	02:55	10:33	10H39M	06:31	**05:43**	01:40	11:15	11H12M
22	◑	07:04	**06:19**	03:12	**12:43**	11H15M	07:02	**05:44**	03:59	11:20	10H42M	06:30	**05:44**	02:39	**12:06**	11H14M
23	◑	07:03	**06:20**	04:08	**01:42**	11H17M	07:00	**05:46**	04:54	**12:21**	10H46M	06:28	**05:44**	03:35	**01:06**	11H16M
24	◑	07:02	**06:21**	04:58	**02:48**	11H19M	06:58	**05:47**	05:38	**01:35**	10H49M	06:27	**05:45**	04:26	**02:11**	11H18M
25	◑	07:01	**06:22**	05:43	**03:57**	11H21M	06:56	**05:49**	06:12	**02:56**	10H53M	06:26	**05:46**	05:10	**03:21**	11H20M
26	◑	07:00	**06:23**	06:21	**05:08**	11H23M	06:55	**05:50**	06:38	**04:20**	10H55M	06:25	**05:47**	05:48	**04:33**	11H22M
27	◑	06:58	**06:24**	06:55	**06:19**	11H26M	06:53	**05:52**	07:00	**05:45**	10H59M	06:24	**05:48**	06:21	**05:44**	11H24M
28	●	06:57	**06:25**	07:26	**07:29**	11H28M	06:51	**05:53**	07:18	**07:09**	11H2M	06:22	**05:49**	06:52	**06:55**	11H27M

March



The Moon will be in conjunction with Venus on the 1st, Jupiter on the early morning of the 5th, and Mars on the 8th. March 14 brings with it the only total lunar eclipse of the year visible from the continental U.S. The eclipse will be visible throughout the entire night, first as a dimming of the moon and then as a dazzling reddish hue on its surface. On the 20th, the spring equinox will mark the beginning of spring.

D. = Day of the Month P. = Phase of the Moon LOD = Length of Day *Bold indicates PM time

D.	P.	NEW YORK CITY					RICHMOND					ATLANTA				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	◐	06:29	**05:48**	07:20	**08:04**	11H19M	06:41	**06:04**	07:35	**08:16**	11H23M	07:06	**06:34**	08:03	**08:44**	11H28M
2	◐	06:28	**05:49**	07:45	**09:21**	11H21M	06:39	**06:05**	08:02	**09:31**	11H26M	07:04	**06:35**	08:34	**09:55**	11H31M
3	◐	06:26	**05:50**	08:12	**10:40**	11H24M	06:38	**06:06**	08:31	**10:47**	11H28M	07:03	**06:36**	09:06	**11:08**	11H33M
4	◐	06:25	**05:51**	08:42	**11:58**	11H26M	06:36	**06:07**	09:05	–	11H31M	07:02	**06:37**	09:43	–	11H35M
5	◐	06:23	**05:52**	09:20	–	11H29M	06:35	**06:08**	09:45	12:03	11H33M	07:01	**06:38**	10:25	12:21	11H37M
6	◐	06:22	**05:53**	10:05	01:14	11H31M	06:34	**06:09**	10:32	01:16	11H35M	06:59	**06:39**	11:15	01:32	11H40M
7	◐	06:20	**05:54**	11:01	02:23	11H34M	06:32	**06:10**	11:28	02:24	11H38M	06:58	**06:39**	**12:12**	02:38	11H41M
8	◐	06:18	**05:55**	**12:04**	03:21	11H37M	06:31	**06:11**	**12:31**	03:22	11H40M	06:57	**06:40**	**01:14**	03:37	11H43M
9	◐	07:17	**06:57**	**02:13**	05:07	11H40M	07:29	**07:12**	**02:38**	05:10	11H43M	07:55	**07:41**	**03:19**	05:26	11H46M
10	◐	07:15	**06:58**	**03:22**	05:44	11H43M	07:28	**07:13**	**03:45**	05:48	11H45M	07:54	**07:42**	**04:24**	06:07	11H48M
11	◐	07:14	**06:59**	**04:29**	06:13	11H45M	07:26	**07:13**	**04:50**	06:20	11H47M	07:53	**07:43**	**05:26**	06:40	11H50M
12	◐	07:12	**07:00**	**05:34**	06:38	11H48M	07:25	**07:14**	**05:52**	06:46	11H49M	07:52	**07:43**	**06:26**	07:09	11H51M
13	◐	07:10	**07:01**	**06:37**	06:59	11H51M	07:23	**07:15**	**06:53**	07:10	11H52M	07:50	**07:44**	**07:23**	07:35	11H54M
14	○	07:09	**07:02**	**07:38**	07:18	11H53M	07:22	**07:16**	**07:51**	07:31	11H54M	07:49	**07:45**	**08:20**	07:59	11H56M
15	◑	07:07	**07:03**	**08:38**	07:37	11H56M	07:20	**07:17**	**08:50**	07:52	11H57M	07:48	**07:46**	**09:15**	08:22	11H58M
16	◑	07:06	**07:04**	**09:39**	07:56	11H58M	07:19	**07:18**	**09:48**	08:13	11H59M	07:46	**07:46**	**10:12**	08:46	12H0M
17	◑	07:04	**07:05**	**10:41**	08:17	12H1M	07:17	**07:19**	**10:48**	08:37	12H2M	07:45	**07:47**	**11:09**	09:11	12H2M
18	◑	07:02	**07:06**	**11:44**	08:41	12H4M	07:16	**07:20**	**11:49**	09:03	12H4M	07:44	**07:48**	–	09:40	12H4M
19	◑	07:01	**07:07**	–	09:09	12H6M	07:14	**07:21**	–	09:33	12H7M	07:42	**07:49**	12:08	10:13	12H7M
20	◑	06:59	**07:08**	12:48	09:44	12H9M	07:13	**07:22**	12:51	10:10	12H9M	07:41	**07:49**	01:07	10:51	12H8M
21	◑	06:57	**07:10**	01:50	10:27	12H13M	07:11	**07:23**	01:51	10:55	12H12M	07:39	**07:50**	02:06	11:37	12H11M
22	◑	06:56	**07:11**	02:48	11:20	12H15M	07:10	**07:24**	02:48	11:48	12H14M	07:38	**07:51**	03:03	**12:31**	12H13M
23	◑	06:54	**07:12**	03:39	**12:23**	12H18M	07:08	**07:25**	03:40	**12:50**	12H17M	07:37	**07:52**	03:55	**01:32**	12H15M
24	◑	06:52	**07:13**	04:22	**01:32**	12H21M	07:07	**07:26**	04:25	**01:57**	12H19M	07:35	**07:52**	04:41	**02:38**	12H17M
25	◑	06:51	**07:14**	04:58	**02:46**	12H23M	07:05	**07:26**	05:03	**03:09**	12H21M	07:34	**07:53**	05:22	**03:47**	12H19M
26	◑	06:49	**07:15**	05:28	**04:02**	12H26M	07:04	**07:27**	05:36	**04:22**	12H23M	07:33	**07:54**	05:57	**04:57**	12H21M
27	◑	06:47	**07:16**	05:55	**05:18**	12H29M	07:02	**07:28**	06:05	**05:35**	12H26M	07:31	**07:55**	06:29	**06:07**	12H24M
28	◑	06:46	**07:17**	06:20	**06:36**	12H31M	07:01	**07:29**	06:32	**06:50**	12H28M	07:30	**07:55**	07:00	**07:19**	12H25M
29	●	06:44	**07:18**	06:44	**07:54**	12H34M	06:59	**07:30**	07:00	**08:05**	12H31M	07:29	**07:56**	07:30	**08:31**	12H27M
30	◐	06:42	**07:19**	07:10	**09:15**	12H37M	06:58	**07:31**	07:29	**09:23**	12H33M	07:27	**07:57**	08:02	**09:45**	12H30M
31	◐	06:41	**07:20**	07:40	**10:37**	12H39M	06:56	**07:32**	08:01	**10:42**	12H36M	07:26	**07:58**	08:38	**11:01**	12H32M

D.	P.	ORLANDO					MINNEAPOLIS					CHICAGO				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	🌒	06:50	**06:26**	07:52	**08:29**	11H36M	06:50	**06:01**	07:38	**08:28**	11H11M	06:25	**05:41**	07:16	**08:02**	11H16M
2	🌒	06:49	**06:26**	08:26	**09:36**	11H37M	06:49	**06:02**	07:58	**09:50**	11H13M	06:23	**05:42**	07:39	**09:21**	11H19M
3	🌒	06:48	**06:27**	09:02	**10:45**	11H39M	06:47	**06:04**	08:21	**11:13**	11H17M	06:22	**05:44**	08:05	**10:40**	11H22M
4	🌒	06:47	**06:28**	09:42	**11:55**	11H41M	06:45	**06:05**	08:48	–	11H20M	06:20	**05:45**	08:35	–	11H25M
5	🌒	06:46	**06:28**	10:27	–	11H42M	06:43	**06:06**	09:22	12:36	11H23M	06:18	**05:46**	09:11	12:00	11H28M
6	🌓	06:45	**06:29**	11:19	01:04	11H44M	06:41	**06:08**	10:05	01:54	11H27M	06:17	**05:47**	09:57	01:16	11H30M
7	🌔	06:44	**06:29**	**12:16**	02:09	11H45M	06:40	**06:09**	11:00	03:04	11H29M	06:15	**05:48**	10:52	02:25	11H33M
8	🌔	06:43	**06:30**	**01:18**	03:08	11H47M	06:38	**06:10**	**12:05**	04:01	11H32M	06:13	**05:49**	11:56	03:22	11H36M
9	🌔	07:42	**07:31**	**03:21**	04:58	11H49M	07:36	**07:12**	**02:16**	05:44	11H36M	07:12	**06:51**	**02:05**	05:08	11H39M
10	🌔	07:40	**07:31**	**04:23**	05:42	11H51M	07:34	**07:13**	**03:29**	06:17	11H39M	07:10	**06:52**	**03:15**	05:43	11H42M
11	🌔	07:39	**07:32**	**05:22**	06:18	11H53M	07:32	**07:14**	**04:40**	06:43	11H42M	07:08	**06:53**	**04:23**	06:12	11H45M
12	🌔	07:38	**07:32**	**06:19**	06:50	11H54M	07:30	**07:16**	**05:48**	07:03	11H46M	07:07	**06:54**	**05:29**	06:35	11H47M
13	🌔	07:37	**07:33**	**07:13**	07:19	11H56M	07:29	**07:17**	**06:54**	07:21	11H48M	07:05	**06:55**	**06:33**	06:55	11H50M
14	🌕	07:36	**07:34**	**08:06**	07:46	11H58M	07:27	**07:18**	**07:59**	07:37	11H51M	07:03	**06:56**	**07:35**	07:13	11H53M
15	🌖	07:35	**07:34**	**08:59**	08:12	11H59M	07:25	**07:20**	**09:03**	07:52	11H55M	07:02	**06:57**	**08:36**	07:31	11H55M
16	🌖	07:34	**07:35**	**09:52**	08:39	12H1M	07:23	**07:21**	**10:08**	08:08	11H58M	07:00	**06:59**	**09:38**	07:50	11H59M
17	🌖	07:32	**07:35**	**10:47**	09:07	12H3M	07:21	**07:22**	**11:13**	08:26	12H1M	06:58	**07:00**	**10:41**	08:10	12H2M
18	🌖	07:31	**07:36**	**11:43**	09:39	12H5M	07:19	**07:23**	–	08:46	12H4M	06:57	**07:01**	**11:45**	08:33	12H4M
19	🌖	07:30	**07:36**	–	10:14	12H6M	07:17	**07:25**	12:20	09:12	12H8M	06:55	**07:02**	–	09:01	12H7M
20	🌖	07:29	**07:37**	12:40	10:55	12H8M	07:16	**07:26**	01:27	09:44	12H10M	06:53	**07:03**	12:49	09:35	12H10M
21	🌖	07:28	**07:38**	01:37	11:42	12H10M	07:14	**07:27**	02:31	10:26	12H13M	06:52	**07:04**	01:52	10:18	12H12M
22	🌗	07:27	**07:38**	02:33	**12:36**	12H11M	07:12	**07:29**	03:29	11:19	12H17M	06:50	**07:05**	02:49	11:12	12H15M
23	🌘	07:26	**07:39**	03:26	**01:36**	12H13M	07:10	**07:30**	04:18	**12:24**	12H20M	06:48	**07:06**	03:40	**12:15**	12H18M
24	🌘	07:24	**07:39**	04:14	**02:39**	12H15M	07:08	**07:31**	04:58	**01:37**	12H23M	06:46	**07:08**	04:22	**01:25**	12H22M
25	🌘	07:23	**07:40**	04:57	**03:45**	12H17M	07:06	**07:32**	05:30	**02:55**	12H26M	06:45	**07:09**	04:57	**02:40**	12H24M
26	🌘	07:22	**07:40**	05:36	**04:52**	12H18M	07:04	**07:34**	05:56	**04:15**	12H30M	06:43	**07:10**	05:26	**03:57**	12H27M
27	🌘	07:21	**07:41**	06:12	**05:58**	12H20M	07:02	**07:35**	06:19	**05:36**	12H33M	06:41	**07:11**	05:52	**05:15**	12H30M
28	🌘	07:20	**07:42**	06:46	**07:05**	12H22M	07:01	**07:36**	06:39	**06:57**	12H35M	06:40	**07:12**	06:15	**06:33**	12H32M
29	🌑	07:19	**07:42**	07:20	**08:14**	12H23M	06:59	**07:37**	07:00	**08:21**	12H38M	06:38	**07:13**	06:39	**07:53**	12H35M
30	🌒	07:17	**07:43**	07:56	**09:24**	12H26M	06:57	**07:39**	07:22	**09:46**	12H42M	06:36	**07:14**	07:04	**09:15**	12H38M
31	🌒	07:16	**07:43**	08:35	**10:37**	12H27M	06:55	**07:40**	07:47	**11:12**	12H45M	06:34	**07:15**	07:33	**10:38**	12H41M

D.	P.	KANSAS CITY					MEMPHIS					SAN ANTONIO				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	🌒	06:50	**06:11**	07:44	**08:30**	11H21M	06:29	**05:56**	07:26	**08:08**	11H27M	06:59	**06:34**	08:02	**08:41**	11H35M
2	🌒	06:49	**06:12**	08:10	**09:46**	11H23M	06:28	**05:57**	07:56	**09:21**	11H29M	06:58	**06:34**	08:35	**09:49**	11H36M
3	🌒	06:47	**06:13**	08:39	**11:03**	11H26M	06:27	**05:58**	08:27	**10:34**	11H31M	06:57	**06:35**	09:11	**10:58**	11H38M
4	🌒	06:46	**06:14**	09:11	–	11H28M	06:25	**05:59**	09:03	**11:49**	11H34M	06:56	**06:36**	09:50	–	11H40M
5	🌒	06:44	**06:15**	09:50	12:20	11H31M	06:24	**06:00**	09:44	–	11H36M	06:55	**06:36**	10:35	12:09	11H41M
6	🌓	06:43	**06:17**	10:37	01:34	11H34M	06:23	**06:00**	10:33	01:01	11H37M	06:54	**06:37**	11:27	01:18	11H43M
7	🌔	06:41	**06:18**	11:33	02:42	11H37M	06:21	**06:01**	11:30	02:07	11H40M	06:53	**06:38**	**12:25**	02:23	11H45M
8	🌔	06:40	**06:19**	**12:37**	03:39	11H39M	06:20	**06:02**	**12:33**	03:05	11H42M	06:51	**06:38**	**01:27**	03:21	11H47M
9	🌔	07:38	**07:20**	**02:45**	05:26	11H42M	07:19	**07:03**	**02:39**	04:54	11H44M	07:50	**07:39**	**03:30**	05:11	11H49M
10	🌔	07:37	**07:21**	**03:53**	06:03	11H44M	07:17	**07:04**	**03:44**	05:33	11H47M	07:49	**07:40**	**04:32**	05:54	11H51M
11	🌔	07:35	**07:22**	**04:59**	06:33	11H47M	07:16	**07:05**	**04:47**	06:06	11H49M	07:48	**07:40**	**05:32**	06:30	11H52M

March

D. = Day of the Month P. = Phase of the Moon LOD = Length of Day *Bold indicates PM time

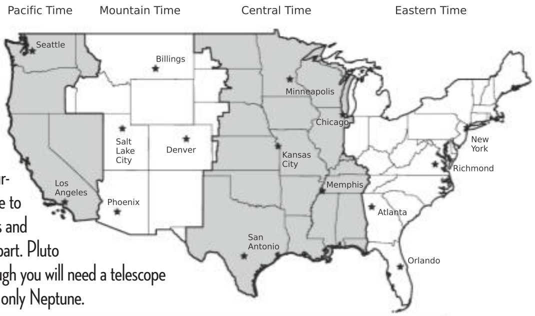
D.	P.	KANSAS CITY					MEMPHIS					SAN ANTONIO				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
12	◐	07:34	**07:23**	**06:02**	06:59	11H49M	07:15	**07:06**	**05:48**	06:34	11H51M	07:47	**07:41**	**06:29**	07:01	11H54M
13	◐	07:32	**07:24**	**07:03**	07:21	11H52M	07:13	**07:06**	**06:46**	06:59	11H53M	07:46	**07:41**	**07:24**	07:29	11H55M
14	○	07:31	**07:25**	**08:03**	07:41	11H54M	07:12	**07:07**	**07:43**	07:22	11H55M	07:44	**07:42**	**08:17**	07:56	11H58M
15	◑	07:29	**07:26**	**09:02**	08:01	11H57M	07:10	**07:08**	**08:40**	07:44	11H58M	07:43	**07:43**	**09:11**	08:21	12H0M
16	◑	07:28	**07:27**	**10:02**	08:21	11H59M	07:09	**07:09**	**09:37**	08:07	12H0M	07:42	**07:43**	**10:04**	08:48	12H1M
17	◑	07:26	**07:28**	**11:03**	08:43	12H2M	07:08	**07:10**	**10:35**	08:32	12H2M	07:41	**07:44**	**10:59**	09:16	12H3M
18	◑	07:24	**07:29**	–	09:09	12H5M	07:06	**07:11**	**11:35**	09:00	12H5M	07:40	**07:44**	**11:56**	09:47	12H4M
19	◑	07:23	**07:30**	12:05	09:38	12H7M	07:05	**07:11**	–	09:32	12H6M	07:39	**07:45**	–	10:22	12H6M
20	◑	07:21	**07:31**	01:08	10:15	12H10M	07:03	**07:12**	12:35	10:10	12H9M	07:37	**07:46**	12:53	11:03	12H9M
21	◑	07:20	**07:32**	02:09	10:59	12H12M	07:02	**07:13**	01:35	10:56	12H11M	07:36	**07:46**	01:51	11:50	12H10M
22	◑	07:18	**07:33**	03:06	11:53	12H15M	07:01	**07:14**	02:32	11:50	12H13M	07:35	**07:47**	02:47	**12:44**	12H12M
23	◑	07:16	**07:34**	03:57	**12:55**	12H18M	06:59	**07:15**	03:23	**12:51**	12H16M	07:34	**07:47**	03:39	**01:44**	12H13M
24	◑	07:15	**07:35**	04:40	**02:04**	12H20M	06:58	**07:15**	04:09	**01:58**	12H17M	07:33	**07:48**	04:27	**02:49**	12H15M
25	◑	07:13	**07:36**	05:17	**03:17**	12H23M	06:56	**07:16**	04:48	**03:08**	12H20M	07:31	**07:49**	05:10	**03:55**	12H18M
26	◑	07:12	**07:37**	05:49	**04:31**	12H25M	06:55	**07:17**	05:23	**04:19**	12H22M	07:30	**07:49**	05:48	**05:02**	12H19M
27	◑	07:10	**07:38**	06:17	**05:46**	12H28M	06:53	**07:18**	05:54	**05:30**	12H25M	07:29	**07:50**	06:23	**06:09**	12H21M
28	◑	07:09	**07:39**	06:43	**07:02**	12H30M	06:52	**07:19**	06:23	**06:43**	12H27M	07:28	**07:50**	06:56	**07:17**	12H22M
29	●	07:07	**07:39**	07:09	**08:19**	12H32M	06:51	**07:19**	06:52	**07:56**	12H28M	07:27	**07:51**	07:30	**08:27**	12H24M
30	◐	07:05	**07:40**	07:36	**09:38**	12H35M	06:49	**07:20**	07:23	**09:12**	12H31M	07:26	**07:51**	08:05	**09:38**	12H25M
31	◐	07:04	**07:41**	08:08	**10:59**	12H37M	06:48	**07:21**	07:58	**10:29**	12H33M	07:24	**07:52**	08:44	**10:50**	12H28M

D.	P.	BILLINGS					SALT LAKE CITY					DENVER				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	◐	06:52	**06:01**	07:40	**08:33**	11H9M	07:01	**06:19**	07:54	**08:44**	11H18M	06:32	**05:52**	07:27	**08:14**	11H20M
2	◐	06:50	**06:03**	07:59	**09:56**	11H13M	06:59	**06:20**	08:19	**10:01**	11H21M	06:31	**05:54**	07:52	**09:30**	11H23M
3	◐	06:48	**06:04**	08:21	**11:20**	11H16M	06:58	**06:22**	08:46	**11:20**	11H24M	06:29	**05:55**	08:20	**10:48**	11H26M
4	◐	06:46	**06:05**	08:47	–	11H19M	06:56	**06:23**	09:17	–	11H27M	06:28	**05:56**	08:52	–	11H28M
5	◐	06:45	**06:07**	09:21	12:44	11H22M	06:55	**06:24**	09:55	12:38	11H29M	06:26	**05:57**	09:30	12:06	11H31M
6	◐	06:43	**06:08**	10:04	02:03	11H25M	06:53	**06:25**	10:42	01:53	11H32M	06:25	**05:58**	10:18	01:20	11H33M
7	◐	06:41	**06:10**	10:59	03:12	11H29M	06:51	**06:26**	11:38	03:01	11H35M	06:23	05:59	11:14	02:28	11H36M
8	◐	06:39	**06:11**	**12:05**	04:08	11H32M	06:50	**06:27**	**12:43**	03:58	11H37M	06:22	**06:00**	**12:18**	03:25	11H38M
9	◐	07:37	**07:12**	**02:17**	05:51	11H35M	07:48	**07:28**	**02:51**	05:43	11H40M	07:20	**07:01**	**02:26**	05:11	11H41M
10	◐	07:35	**07:14**	**03:30**	06:23	11H39M	07:47	**07:29**	**04:00**	06:19	11H42M	07:19	**07:02**	**03:34**	05:48	11H43M
11	◐	07:33	**07:15**	**04:42**	06:47	11H42M	07:45	**07:30**	**05:07**	06:48	11H45M	07:17	**07:03**	**04:41**	06:17	11H46M
12	◐	07:32	**07:16**	**05:51**	07:07	11H44M	07:43	**07:31**	**06:12**	07:12	11H48M	07:15	**07:04**	**05:45**	06:42	11H49M
13	◐	07:30	**07:18**	**06:58**	07:23	11H48M	07:42	**07:33**	**07:14**	07:32	11H51M	07:14	**07:05**	**06:46**	07:03	11H51M
14	○	07:28	**07:19**	**08:03**	07:38	11H51M	07:40	**07:34**	**08:16**	07:51	11H54M	07:12	**07:06**	**07:46**	07:23	11H54M
15	◑	07:26	**07:20**	**09:08**	07:53	11H54M	07:39	**07:35**	**09:16**	08:10	11H56M	07:11	**07:07**	**08:46**	07:43	11H56M
16	◑	07:24	**07:22**	**10:13**	08:08	11H58M	07:37	**07:36**	**10:17**	08:29	11H59M	07:09	**07:08**	**09:47**	08:03	11H59M
17	◑	07:22	**07:23**	**11:19**	08:25	12H1M	07:35	**07:37**	**11:19**	08:50	12H2M	07:08	**07:09**	**10:48**	08:24	12H1M
18	◑	07:20	**07:24**	–	08:46	12H4M	07:34	**07:38**	–	09:15	12H4M	07:06	**07:10**	**11:51**	08:49	12H4M
19	◑	07:18	**07:26**	12:27	09:11	12H8M	07:32	**07:39**	12:23	09:44	12H7M	07:04	**07:11**	–	09:19	12H7M
20	◑	07:16	**07:27**	01:34	09:43	12H11M	07:30	**07:40**	01:26	10:19	12H10M	07:03	**07:12**	12:54	09:55	12H9M

D.	P.	BILLINGS					SALT LAKE CITY					DENVER				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
21	◑	07:14	**07:28**	02:39	10:25	12H14M	07:29	**07:41**	02:28	11:04	12H12M	07:01	**07:13**	01:55	10:40	12H12M
22	◑	07:12	**07:30**	03:36	11:18	12H18M	07:27	**07:42**	03:25	11:58	12H15M	06:59	**07:14**	02:52	11:34	12H15M
23	◑	07:11	**07:31**	04:25	**12:24**	12H20M	07:25	**07:43**	04:15	**01:01**	12H18M	06:58	**07:15**	03:42	**12:36**	12H17M
24	◑	07:09	**07:32**	05:04	**01:38**	12H23M	07:24	**07:44**	04:58	**02:11**	12H20M	06:56	**07:16**	04:25	**01:46**	12H20M
25	◑	07:07	**07:34**	05:35	**02:57**	12H27M	07:22	**07:45**	05:33	**03:26**	12H23M	06:55	**07:17**	05:02	**02:59**	12H22M
26	◑	07:05	**07:35**	06:00	**04:18**	12H30M	07:20	**07:46**	06:03	**04:41**	12H26M	06:53	**07:18**	05:32	**04:14**	12H25M
27	◑	07:03	**07:36**	06:22	**05:39**	12H33M	07:19	**07:48**	06:29	**05:58**	12H29M	06:51	**07:19**	06:00	**05:30**	12H28M
28	◑	07:01	**07:38**	06:41	**07:02**	12H37M	07:17	**07:49**	06:54	**07:15**	12H32M	06:50	**07:20**	06:25	**06:46**	12H30M
29	●	06:59	**07:39**	07:01	**08:26**	12H40M	07:15	**07:50**	07:18	**08:34**	12H35M	06:48	**07:21**	06:51	**08:04**	12H33M
30	◐	06:57	**07:40**	07:22	**09:53**	12H43M	07:14	**07:51**	07:44	**09:55**	12H37M	06:47	**07:22**	07:18	**09:24**	12H35M
31	◐	06:55	**07:42**	07:47	**11:20**	12H47M	07:12	**07:52**	08:15	**11:17**	12H40M	06:45	**07:23**	07:49	**10:45**	12H38M

D.	P.	PHOENIX					SEATTLE					LOS ANGELES				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	◐	06:56	**06:25**	07:57	**08:40**	11H29M	06:49	**05:55**	07:35	**08:33**	11H6M	06:21	**05:50**	07:22	**08:06**	11H29M
2	◐	06:55	**06:26**	08:27	**09:51**	11H31M	06:47	**05:56**	07:53	**09:58**	11H9M	06:20	**05:51**	07:52	**09:18**	11H31M
3	◐	06:54	**06:27**	09:00	**11:03**	11H33M	06:45	**05:58**	08:13	**11:25**	11H13M	06:19	**05:51**	08:24	**10:31**	11H32M
4	◐	06:52	**06:28**	09:37	–	11H36M	06:43	**05:59**	08:37	–	11H16M	06:17	**05:52**	09:01	**11:44**	11H35M
5	◐	06:51	**06:29**	10:20	12:16	11H38M	06:41	**06:01**	09:09	12:50	11H20M	06:16	**05:53**	09:44	–	11H37M
6	◐	06:50	**06:29**	11:10	01:27	11H39M	06:39	**06:02**	09:51	02:11	11H23M	06:15	**05:54**	10:34	12:55	11H39M
7	◐	06:49	**06:30**	**12:08**	02:33	11H41M	06:37	**06:04**	10:46	03:21	11H27M	06:13	**05:55**	11:32	02:01	11H42M
8	◐	06:47	**06:31**	**01:11**	03:31	11H44M	06:35	**06:05**	11:53	04:16	11H30M	06:12	**05:55**	**12:35**	02:58	11H43M
9	◐	06:46	**06:32**	**02:16**	04:19	11H46M	07:33	**07:07**	**02:06**	05:56	11H34M	07:11	**06:56**	**02:40**	04:46	11H45M
10	◐	06:45	**06:33**	**03:20**	04:59	11H48M	07:31	**07:08**	**03:21**	06:26	11H37M	07:10	**06:57**	**03:44**	05:26	11H47M
11	◐	06:43	**06:33**	**04:22**	05:33	11H50M	07:29	**07:10**	**04:35**	06:48	11H41M	07:08	**06:58**	**04:47**	05:59	11H50M
12	◐	06:42	**06:34**	**05:21**	06:02	11H52M	07:27	**07:11**	**05:46**	07:06	11H44M	07:07	**06:59**	**05:46**	06:28	11H52M
13	◐	06:41	**06:35**	**06:19**	06:27	11H54M	07:25	**07:13**	**06:54**	07:21	11H48M	07:06	**06:59**	**06:44**	06:53	11H53M
14	○	06:39	**06:36**	**07:15**	06:51	11H57M	07:23	**07:14**	**08:01**	07:34	11H51M	07:04	**07:00**	**07:40**	07:16	11H56M
15	◑	06:38	**06:36**	**08:10**	07:15	11H58M	07:21	**07:15**	**09:08**	07:48	11H54M	07:03	**07:01**	**08:36**	07:40	11H58M
16	◑	06:37	**06:37**	**09:06**	07:39	12H0M	07:19	**07:17**	**10:15**	08:01	11H58M	07:01	**07:02**	**09:33**	08:03	12H1M
17	◑	06:35	**06:38**	**10:04**	08:05	12H3M	07:17	**07:18**	**11:23**	08:17	12H1M	07:00	**07:03**	**10:31**	08:29	12H3M
18	◑	06:34	**06:39**	**11:02**	08:34	12H5M	07:15	**07:20**	–	08:35	12H5M	06:59	**07:03**	**11:29**	08:58	12H4M
19	◑	06:33	**06:39**	–	09:07	12H6M	07:13	**07:21**	12:33	08:59	12H8M	06:57	**07:04**	–	09:31	12H7M
20	◑	06:31	**06:40**	12:02	09:46	12H9M	07:11	**07:23**	01:41	09:30	12H12M	06:56	**07:05**	12:29	10:10	12H9M
21	◑	06:30	**06:41**	01:01	10:33	12H11M	07:09	**07:24**	02:47	10:11	12H15M	06:55	**07:06**	01:28	10:56	12H11M
22	◑	06:29	**06:42**	01:57	11:27	12H13M	07:07	**07:26**	03:45	11:05	12H19M	06:53	**07:06**	02:25	11:51	12H13M
23	◑	06:27	**06:42**	02:48	**12:29**	12H15M	07:05	**07:27**	04:32	**12:12**	12H22M	06:52	**07:07**	03:16	**12:52**	12H15M
24	◑	06:26	**06:43**	03:34	**01:35**	12H17M	07:03	**07:28**	05:09	**01:28**	12H25M	06:51	**07:08**	04:01	**01:59**	12H17M
25	◑	06:25	**06:44**	04:14	**02:44**	12H19M	07:01	**07:30**	05:38	**02:49**	12H29M	06:49	**07:09**	04:41	**03:08**	12H20M
26	◑	06:23	**06:45**	04:50	**03:54**	12H22M	06:59	**07:31**	06:01	**04:12**	12H32M	06:48	**07:10**	05:16	**04:19**	12H22M
27	◑	06:22	**06:45**	05:22	**05:04**	12H23M	06:57	**07:33**	06:20	**05:36**	12H36M	06:47	**07:10**	05:48	**05:29**	12H23M
28	◑	06:21	**06:46**	05:53	**06:15**	12H25M	06:55	**07:34**	06:38	**07:01**	12H39M	06:45	**07:11**	06:18	**06:41**	12H26M
29	●	06:19	**06:47**	06:23	**07:27**	12H28M	06:53	**07:36**	06:56	**08:28**	12H43M	06:44	**07:12**	06:48	**07:54**	12H28M
30	◐	06:18	**06:48**	06:56	**08:41**	12H30M	06:51	**07:37**	07:15	**09:56**	12H46M	06:42	**07:13**	07:20	**09:08**	12H31M
31	◐	06:17	**06:48**	07:32	**09:57**	12H31M	06:49	**07:38**	07:38	**11:26**	12H49M	06:41	**07:13**	07:56	**10:25**	12H32M

April



Worth watching: For April, look forward to the Lyrids meteor shower, which will peak on the 22nd. On the 24th, Venus will be at its greatest brightness of the entire year during its morning apparition; try to catch it right before sunrise to get the best view. April 28 will mark a conjunction of Venus and Saturn, in which the planets will be only about 3 degrees apart. Pluto and Neptune also will be nearby for this conjunction, although you will need a telescope to see these more distant companions, or binoculars to see only Neptune.

D. = Day of the Month P. = Phase of the Moon LOD = Length of Day *Bold indicates PM time

D.	P.	NEW YORK CITY					RICHMOND					ATLANTA				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	🌒	06:39	**07:21**	08:15	**11:57**	12H42M	06:55	**07:33**	08:39	–	12H38M	07:25	**07:58**	09:19	–	12H33M
2	🌒	06:37	**07:22**	08:59	–	12H45M	06:53	**07:34**	09:25	12:00	12H41M	07:23	**07:59**	10:07	12:17	12H36M
3	🌒	06:36	**07:23**	09:53	01:11	12H47M	06:52	**07:35**	10:20	01:13	12H43M	07:22	**08:00**	11:04	01:28	12H38M
4	🌒	06:34	**07:24**	10:56	02:15	12H50M	06:50	**07:35**	11:23	02:16	12H45M	07:21	**08:01**	**12:06**	02:31	12H40M
5	🌓	06:33	**07:25**	**12:04**	03:06	12H52M	06:49	**07:36**	**12:30**	03:08	12H47M	07:19	**08:01**	**01:12**	03:24	12H42M
6	🌔	06:31	**07:26**	**01:13**	03:46	12H55M	06:47	**07:37**	**01:37**	03:50	12H50M	07:18	**08:02**	**02:17**	04:07	12H44M
7	🌔	06:29	**07:27**	**02:21**	04:18	12H58M	06:46	**07:38**	**02:43**	04:23	12H52M	07:17	**08:03**	**03:20**	04:43	12H46M
8	🌔	06:28	**07:28**	**03:26**	04:43	13H0M	06:44	**07:39**	**03:46**	04:51	12H55M	07:15	**08:04**	**04:20**	05:13	12H49M
9	🌔	06:26	**07:29**	**04:29**	05:05	13H3M	06:43	**07:40**	**04:46**	05:15	12H57M	07:14	**08:04**	**05:17**	05:40	12H50M
10	🌔	06:25	**07:31**	**05:30**	05:24	13H6M	06:42	**07:41**	**05:44**	05:37	12H59M	07:13	**08:05**	**06:14**	06:04	12H52M
11	🌔	06:23	**07:32**	**06:30**	05:43	13H9M	06:40	**07:42**	**06:42**	05:58	13H2M	07:12	**08:06**	**07:09**	06:27	12H54M
12	🌔	06:21	**07:33**	**07:31**	06:02	13H12M	06:39	**07:43**	**07:41**	06:19	13H4M	07:10	**08:07**	**08:05**	06:50	12H57M
13	🌕	06:20	**07:34**	**08:32**	06:22	13H14M	06:37	**07:44**	**08:40**	06:41	13H7M	07:09	**08:07**	**09:02**	07:15	12H58M
14	🌖	06:18	**07:35**	**09:35**	06:45	13H17M	06:36	**07:45**	**09:41**	07:06	13H9M	07:08	**08:08**	**10:00**	07:43	13H0M
15	🌖	06:17	**07:36**	**10:39**	07:12	13H19M	06:34	**07:45**	**10:42**	07:35	13H11M	07:07	**08:09**	**10:59**	08:14	13H2M
16	🌖	06:15	**07:37**	**11:41**	07:44	13H22M	06:33	**07:46**	**11:43**	08:10	13H13M	07:05	**08:10**	**11:59**	08:50	13H5M
17	🌖	06:14	**07:38**	–	08:24	13H24M	06:32	**07:47**	–	08:51	13H15M	07:04	**08:10**	–	09:34	13H6M
18	🌖	06:12	**07:39**	12:40	09:13	13H27M	06:30	**07:48**	12:41	09:41	13H18M	07:03	**08:11**	12:56	10:24	13H8M
19	🌖	06:11	**07:40**	01:33	10:11	13H29M	06:29	**07:49**	01:34	10:39	13H20M	07:02	**08:12**	01:49	11:21	13H10M
20	🌖	06:09	**07:41**	02:18	11:17	13H32M	06:28	**07:50**	02:20	11:43	13H22M	07:00	**08:13**	02:36	**12:24**	13H13M
21	🌗	06:08	**07:42**	02:55	**12:27**	13H34M	06:26	**07:51**	02:59	**12:51**	13H25M	06:59	**08:13**	03:17	**01:30**	13H14M
22	🌘	06:06	**07:43**	03:27	**01:39**	13H37M	06:25	**07:52**	03:33	**02:00**	13H27M	06:58	**08:14**	03:53	**02:37**	13H16M
23	🌘	06:05	**07:44**	03:54	**02:53**	13H39M	06:24	**07:53**	04:03	**03:11**	13H29M	06:57	**08:15**	04:26	**03:45**	13H18M
24	🌘	06:04	**07:45**	04:19	**04:08**	13H41M	06:22	**07:54**	04:30	**04:23**	13H32M	06:56	**08:16**	04:56	**04:54**	13H20M
25	🌘	06:02	**07:46**	04:43	**05:24**	13H44M	06:21	07:55	04:57	**05:37**	13H34M	06:55	**08:17**	05:25	**06:04**	13H22M
26	🌘	06:01	**07:47**	05:07	**06:43**	13H46M	06:20	07:55	05:24	**06:53**	13H35M	06:54	**08:17**	05:56	**07:17**	13H23M
27	🌑	06:00	**07:48**	05:35	**08:05**	13H48M	06:19	07:56	05:55	**08:12**	13H37M	06:53	**08:18**	06:30	**08:33**	13H25M
28	🌒	05:58	**07:49**	06:08	**09:29**	13H51M	06:18	07:57	06:31	**09:33**	13H39M	06:52	**08:19**	07:09	**09:51**	13H27M
29	🌒	05:57	**07:50**	06:49	**10:49**	13H53M	06:16	07:58	07:14	**10:51**	13H42M	06:51	**08:20**	07:55	**11:07**	13H29M
30	🌒	05:56	**07:51**	07:40	–	13H55M	06:15	07:59	08:07	–	13H44M	06:50	**08:20**	08:49	–	13H30M

D.	P.	ORLANDO					MINNEAPOLIS					CHICAGO				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	🌒	07:15	**07:44**	09:20	11:49	12H29M	06:53	**07:41**	08:19	–	12H48M	06:33	**07:16**	08:07	11:59	12H43M
2	🌒	07:14	**07:44**	10:11	–	12H30M	06:51	**07:43**	09:00	12:37	12H52M	06:31	**07:17**	08:51	–	12H46M
3	🌒	07:13	**07:45**	11:08	12:58	12H32M	06:49	**07:44**	09:52	01:53	12H55M	06:29	**07:19**	09:44	01:14	12H50M
4	🌒	07:12	**07:45**	12:10	02:01	12H33M	06:48	**07:45**	10:56	02:56	12H57M	06:28	**07:20**	10:47	02:17	12H52M
5	🌓	07:11	**07:46**	**01:14**	02:56	12H35M	06:46	**07:46**	**12:06**	03:45	13H0M	06:26	**07:21**	11:56	03:07	12H55M
6	🌔	07:10	**07:46**	**02:17**	03:42	12H36M	06:44	**07:48**	**01:19**	04:21	13H4M	06:24	**07:22**	**01:07**	03:46	12H58M
7	🌔	07:08	**07:47**	**03:17**	04:20	12H39M	06:42	**07:49**	**02:31**	04:48	13H7M	06:23	**07:23**	**02:15**	04:16	13H0M
8	🌔	07:07	**07:48**	**04:14**	04:53	12H41M	06:40	**07:50**	**03:40**	05:10	13H10M	06:21	**07:24**	**03:21**	04:41	13H3M
9	🌔	07:06	**07:48**	**05:08**	05:23	12H42M	06:38	**07:51**	**04:46**	05:28	13H13M	06:19	**07:25**	**04:25**	05:01	13H6M
10	🌔	07:05	**07:49**	**06:01**	05:50	12H44M	06:37	**07:53**	**05:50**	05:44	13H16M	06:18	**07:26**	**05:27**	05:20	13H8M
11	🌔	07:04	**07:49**	**06:54**	06:16	12H45M	06:35	**07:54**	**06:54**	05:59	13H19M	06:16	**07:27**	**06:28**	05:38	13H11M
12	🌔	07:03	**07:50**	**07:46**	06:42	12H47M	06:33	**07:55**	**07:58**	06:15	13H22M	06:14	**07:29**	**07:29**	05:56	13H15M
13	🌕	07:02	**07:50**	**08:40**	07:10	12H48M	06:31	**07:56**	**09:03**	06:32	13H25M	06:13	**07:30**	**08:32**	06:15	13H17M
14	🌖	07:01	**07:51**	**09:36**	07:40	12H50M	06:30	**07:58**	**10:10**	06:52	13H28M	06:11	**07:31**	**09:36**	06:37	13H20M
15	🌖	07:00	**07:52**	**10:33**	08:14	12H52M	06:28	**07:59**	**11:16**	07:15	13H31M	06:10	**07:32**	**10:40**	07:03	13H22M
16	🌖	06:59	**07:52**	**11:30**	08:53	12H53M	06:26	**08:00**	–	07:45	13H34M	06:08	**07:33**	**11:43**	07:35	13H25M
17	🌖	06:58	**07:53**	–	09:38	12H55M	06:24	**08:01**	12:21	08:24	13H37M	06:07	**07:34**	–	08:15	13H27M
18	🌖	06:57	**07:53**	12:26	10:29	12H56M	06:23	**08:03**	01:21	09:12	13H40M	06:05	**07:35**	12:42	09:04	13H30M
19	🌖	06:56	**07:54**	01:19	11:25	12H58M	06:21	**08:04**	02:13	10:12	13H43M	06:03	**07:36**	01:34	10:03	13H33M
20	🌖	06:55	**07:54**	02:08	**12:26**	12H59M	06:19	**08:05**	02:55	11:20	13H46M	06:02	**07:37**	02:18	11:09	13H35M
21	🌗	06:54	**07:55**	02:52	**01:29**	13H1M	06:18	**08:07**	03:29	**12:34**	13H49M	06:00	**07:38**	02:55	**12:20**	13H38M
22	🌘	06:53	**07:56**	03:31	**02:33**	13H3M	06:16	**08:08**	03:57	**01:50**	13H52M	05:59	**07:40**	03:25	**01:34**	13H41M
23	🌘	06:52	**07:56**	04:07	**03:37**	13H4M	06:14	**08:09**	04:20	**03:08**	13H55M	05:57	**07:41**	03:51	**02:49**	13H44M
24	🌘	06:51	**07:57**	04:40	**04:43**	13H6M	06:13	**08:10**	04:40	**04:27**	13H57M	05:56	**07:42**	04:15	**04:04**	13H46M
25	🌘	06:50	**07:57**	05:13	**05:49**	13H7M	06:11	**08:12**	05:00	**05:48**	14H1M	05:55	**07:43**	04:38	**05:22**	13H48M
26	🌘	06:49	**07:58**	05:48	**06:58**	13H9M	06:10	**08:13**	05:21	**07:12**	14H3M	05:53	**07:44**	05:02	**06:42**	13H51M
27	🌑	06:48	**07:59**	06:25	**08:10**	13H11M	06:08	**08:14**	05:45	**08:39**	14H6M	05:52	**07:45**	05:28	**08:06**	13H53M
28	🌒	06:47	**07:59**	07:08	**09:24**	13H12M	06:06	**08:15**	06:14	**10:06**	14H9M	05:50	**07:46**	06:00	**09:30**	13H56M
29	🌒	06:46	**08:00**	07:57	**10:38**	13H14M	06:05	**08:17**	06:51	**11:30**	14H12M	05:49	**07:47**	06:41	**10:51**	13H58M
30	🌒	06:45	**08:00**	08:54	**11:46**	13H15M	06:03	**08:18**	07:40	–	14H15M	05:48	**07:48**	07:31	–	14H0M

D.	P.	KANSAS CITY					MEMPHIS					SAN ANTONIO				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	🌒	07:02	**07:42**	08:45	–	12H40M	06:46	**07:22**	08:38	11:45	12H36M	07:23	**07:53**	09:28	–	12H30M
2	🌒	07:01	**07:43**	09:31	12:18	12H42M	06:45	**07:23**	09:26	–	12H38M	07:22	**07:53**	10:19	12:03	12H31M
3	🌒	06:59	**07:44**	10:26	01:31	12H45M	06:44	**07:23**	10:22	12:56	12H39M	07:21	**07:54**	11:17	01:13	12H33M
4	🌒	06:58	**07:45**	11:29	02:34	12H47M	06:42	**07:24**	11:25	01:59	12H42M	07:20	**07:54**	**12:19**	02:15	12H34M
5	🌓	06:56	**07:46**	**12:36**	03:25	12H50M	06:41	**07:25**	**12:31**	02:52	12H44M	07:19	**07:55**	**01:23**	03:09	12H36M
6	🌔	06:55	**07:47**	**01:45**	04:05	12H52M	06:40	**07:26**	**01:37**	03:35	12H46M	07:17	**07:56**	**02:26**	03:54	12H39M
7	🌔	06:53	**07:48**	**02:51**	04:37	12H55M	06:38	**07:27**	**02:41**	04:09	12H49M	07:16	**07:56**	**03:27**	04:32	12H40M
8	🌔	06:52	**07:49**	**03:55**	05:04	12H57M	06:37	**07:27**	**03:42**	04:39	12H50M	07:15	**07:57**	**04:24**	05:04	12H42M
9	🌔	06:50	**07:50**	**04:56**	05:26	13H0M	06:36	**07:28**	**04:40**	05:04	12H52M	07:14	**07:57**	**05:19**	05:33	12H43M
10	🌔	06:48	**07:51**	**05:56**	05:47	13H3M	06:34	**07:29**	**05:37**	05:27	12H55M	07:13	**07:58**	**06:12**	06:00	12H45M
11	🌔	06:47	**07:52**	**06:55**	06:07	13H5M	06:33	**07:30**	**06:33**	05:50	12H57M	07:12	**07:59**	**07:05**	06:25	12H47M

April

D. = Day of the Month P. = Phase of the Moon LOD = Length of Day *Bold indicates PM time

D.	P.	KANSAS CITY					MEMPHIS					SAN ANTONIO				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
12	🌔	06:46	**07:53**	**07:54**	06:27	13H7M	06:32	**07:31**	**07:30**	06:12	12H59M	07:11	**07:59**	**07:58**	06:51	12H48M
13	🌕	06:44	**07:54**	**08:55**	06:48	13H10M	06:30	**07:32**	**08:28**	06:36	13H2M	07:09	**08:00**	**08:53**	07:19	12H51M
14	🌖	06:43	**07:55**	**09:56**	07:12	13H12M	06:29	**07:32**	**09:27**	07:03	13H3M	07:08	**08:00**	**09:49**	07:49	12H52M
15	🌖	06:41	**07:56**	**10:59**	07:41	13H15M	06:28	**07:33**	**10:27**	07:33	13H5M	07:07	**08:01**	**10:46**	08:22	12H54M
16	🌖	06:40	**07:57**	–	08:14	13H17M	06:26	**07:34**	**11:27**	08:09	13H8M	07:06	**08:01**	**11:44**	09:01	12H55M
17	🌖	06:38	**07:58**	12:00	08:56	13H20M	06:25	**07:35**	–	08:52	13H10M	07:05	**08:02**	–	09:46	12H57M
18	🌖	06:37	**07:59**	12:59	09:46	13H22M	06:24	**07:36**	12:24	09:42	13H12M	07:04	**08:03**	12:40	10:37	12H59M
19	🌖	06:35	**08:00**	01:51	10:44	13H25M	06:23	**07:36**	01:17	10:40	13H13M	07:03	**08:03**	01:33	11:34	13H0M
20	🌖	06:34	**08:01**	02:36	11:49	13H27M	06:21	**07:37**	02:04	11:43	13H16M	07:02	**08:04**	02:21	**12:35**	13H2M
21	🌗	06:33	**08:02**	03:14	**12:58**	13H29M	06:20	**07:38**	02:44	**12:50**	13H18M	07:01	**08:05**	03:04	**01:39**	13H4M
22	🌘	06:31	**08:03**	03:47	**02:09**	13H32M	06:19	**07:39**	03:19	**01:58**	13H20M	07:00	**08:05**	03:43	**02:43**	13H5M
23	🌘	06:30	**08:04**	04:15	**03:21**	13H34M	06:18	**07:40**	03:51	**03:07**	13H22M	06:59	**08:06**	04:18	**03:48**	13H7M
24	🌘	06:29	**08:05**	04:41	**04:35**	13H36M	06:17	**07:40**	04:20	**04:17**	13H23M	06:58	**08:06**	04:51	**04:54**	13H8M
25	🌘	06:27	**08:06**	05:06	**05:50**	13H39M	06:15	**07:41**	04:48	**05:28**	13H26M	06:57	**08:07**	05:23	**06:01**	13H10M
26	🌘	06:26	**08:07**	05:33	**07:07**	13H41M	06:14	**07:42**	05:18	**06:43**	13H28M	06:56	**08:08**	05:57	**07:11**	13H12M
27	🌑	06:25	**08:08**	06:02	**08:28**	13H43M	06:13	**07:43**	05:51	**08:00**	13H30M	06:55	**08:08**	06:34	**08:24**	13H13M
28	🌒	06:23	**08:09**	06:37	**09:50**	13H46M	06:12	**07:44**	06:29	**09:19**	13H32M	06:54	**08:09**	07:17	**09:39**	13H15M
29	🌒	06:22	**08:10**	07:20	**11:09**	13H48M	06:11	**07:45**	07:14	**10:35**	13H34M	06:53	**08:09**	08:06	**10:52**	13H16M
30	🌒	06:21	**08:11**	08:12	–	13H50M	06:10	**07:45**	08:08	**11:45**	13H35M	06:53	**08:10**	09:02	–	13H17M

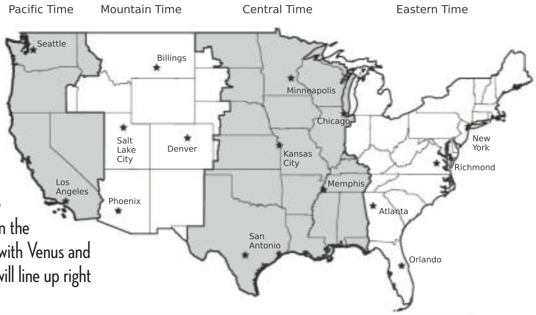
D.	P.	BILLINGS					SALT LAKE CITY					DENVER				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	🌒	06:53	**07:43**	08:18	–	12H50M	07:10	**07:53**	08:51	–	12H43M	06:43	**07:24**	08:26	–	12H41M
2	🌒	06:51	**07:44**	08:59	12:45	12H53M	07:09	**07:54**	09:36	12:37	12H45M	06:42	**07:25**	09:11	12:04	12H43M
3	🌒	06:50	**07:46**	09:51	02:01	12H56M	07:07	**07:55**	10:30	01:50	12H48M	06:40	**07:26**	10:06	01:17	12H46M
4	🌒	06:48	**07:47**	10:55	03:04	12H59M	07:06	**07:56**	11:34	02:53	12H50M	06:39	**07:27**	11:09	02:20	12H48M
5	🌔	06:46	**07:48**	**12:07**	03:51	13H2M	07:04	**07:57**	**12:43**	03:43	12H53M	06:37	**07:28**	**12:17**	03:10	12H51M
6	🌔	06:44	**07:49**	**01:20**	04:26	13H5M	07:02	**07:58**	**01:52**	04:22	12H56M	06:36	**07:29**	**01:26**	03:50	12H53M
7	🌔	06:42	**07:51**	**02:32**	04:53	13H9M	07:01	**07:59**	**03:00**	04:52	12H58M	06:34	**07:30**	**02:33**	04:21	12H56M
8	🌔	06:40	**07:52**	**03:42**	05:13	13H12M	06:59	**08:00**	**04:05**	05:17	13H1M	06:32	**07:31**	**03:37**	04:47	12H59M
9	🌔	06:38	**07:53**	**04:49**	05:31	13H15M	06:57	**08:01**	**05:07**	05:38	13H4M	06:31	**07:32**	**04:39**	05:09	13H1M
10	🌔	06:36	**07:55**	**05:54**	05:46	13H19M	06:56	**08:02**	**06:08**	05:58	13H6M	06:29	**07:33**	**05:39**	05:29	13H4M
11	🌔	06:35	**07:56**	**06:58**	06:01	13H21M	06:54	**08:03**	**07:08**	06:16	13H9M	06:28	**07:34**	**06:39**	05:49	13H6M
12	🌔	06:33	**07:57**	**08:03**	06:16	13H24M	06:53	**08:04**	**08:09**	06:35	13H11M	06:26	**07:35**	**07:38**	06:08	13H9M
13	🌕	06:31	**07:59**	**09:09**	06:32	13H28M	06:51	**08:05**	**09:11**	06:56	13H14M	06:25	**07:36**	**08:39**	06:29	13H11M
14	🌖	06:29	**08:00**	**10:16**	06:51	13H31M	06:50	**08:06**	**10:14**	07:19	13H16M	06:23	**07:37**	**09:42**	06:53	13H14M
15	🌖	06:27	**08:01**	**11:24**	07:14	13H34M	06:48	**08:07**	**11:17**	07:46	13H19M	06:22	**07:38**	**10:45**	07:21	13H16M
16	🌖	06:26	**08:03**	–	07:44	13H37M	06:47	**08:08**	–	08:19	13H21M	06:20	**07:39**	**11:46**	07:55	13H19M
17	🌖	06:24	**08:04**	12:29	08:22	13H40M	06:45	**08:10**	12:19	09:00	13H25M	06:19	**07:40**	–	08:36	13H21M
18	🌖	06:22	**08:05**	01:29	09:11	13H43M	06:44	**08:11**	01:18	09:50	13H27M	06:17	**07:41**	12:44	09:26	13H24M
19	🌖	06:20	**08:06**	02:20	10:11	13H46M	06:42	**08:12**	02:09	10:49	13H30M	06:16	**07:42**	01:37	10:25	13H26M

D.	P.	BILLINGS					SALT LAKE CITY					DENVER				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
20	◑	06:19	**08:08**	03:02	**11:20**	13H49M	06:41	**08:13**	02:54	11:55	13H32M	06:15	**07:43**	02:21	11:30	13H28M
21	◑	06:17	**08:09**	03:35	**12:35**	13H52M	06:39	**08:14**	03:30	**01:06**	13H35M	06:13	**07:44**	02:59	**12:40**	13H31M
22	◑	06:15	**08:10**	04:01	**01:52**	13H55M	06:38	**08:15**	04:01	**02:18**	13H37M	06:12	**07:45**	03:31	**01:52**	13H33M
23	◑	06:14	**08:12**	04:23	**03:11**	13H58M	06:36	**08:16**	04:28	**03:32**	13H40M	06:10	**07:46**	03:58	**03:04**	13H36M
24	◑	06:12	**08:13**	04:43	**04:31**	14H1M	06:35	**08:17**	04:53	**04:47**	13H42M	06:09	**07:48**	04:24	**04:18**	13H39M
25	◑	06:10	**08:14**	05:02	**05:53**	14H4M	06:34	**08:18**	05:17	**06:04**	13H44M	06:08	**07:49**	04:49	**05:34**	13H41M
26	◑	06:09	**08:16**	05:22	**07:18**	14H7M	06:32	**08:19**	05:42	**07:23**	13H47M	06:06	**07:50**	05:15	**06:52**	13H44M
27	●	06:07	**08:17**	05:45	**08:46**	14H10M	06:31	**08:20**	06:10	**08:46**	13H49M	06:05	**07:51**	05:44	**08:14**	13H46M
28	◐	06:05	**08:18**	06:13	**10:14**	14H13M	06:29	**08:21**	06:43	**10:09**	13H52M	06:04	**07:52**	06:18	**09:36**	13H48M
29	◐	06:04	**08:19**	06:50	**11:38**	14H15M	06:28	**08:22**	07:25	**11:29**	13H54M	06:02	**07:53**	07:00	**10:55**	13H51M
30	◐	06:02	**08:21**	07:39	--	14H19M	06:27	**08:23**	08:17	--	13H56M	06:01	**07:54**	07:53	--	13H53M

D.	P.	PHOENIX					SEATTLE					LOS ANGELES				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	◐	06:15	**06:49**	08:14	**11:12**	12H34M	06:47	**07:40**	08:07	–	12H53M	06:40	**07:14**	08:38	**11:40**	12H34M
2	◐	06:14	**06:50**	09:03	–	12H36M	06:45	**07:41**	08:46	12:53	12H56M	06:38	**07:15**	09:27	--	12H37M
3	◐	06:13	**06:51**	10:00	12:23	12H38M	06:43	**07:43**	09:38	02:10	13H0M	06:37	**07:16**	10:24	12:51	12H39M
4	◐	06:11	**06:51**	11:03	01:25	12H40M	06:41	**07:44**	10:43	03:12	13H3M	06:36	**07:16**	11:27	01:53	12H40M
5	◐	06:10	**06:52**	**12:08**	02:17	12H42M	06:39	**07:45**	11:56	03:57	13H6M	06:34	**07:17**	**12:32**	02:45	12H43M
6	◐	06:09	**06:53**	**01:13**	03:00	12H44M	06:37	**07:47**	**01:11**	04:30	13H10M	06:33	**07:18**	**01:37**	03:27	12H45M
7	◐	06:08	**06:53**	**02:16**	03:36	12H45M	06:35	**07:48**	**02:25**	04:55	13H13M	06:32	**07:19**	**02:40**	04:02	12H47M
8	◐	06:06	**06:54**	**03:15**	04:06	12H48M	06:33	**07:50**	**03:36**	05:13	13H17M	06:30	**07:19**	**03:40**	04:32	12H49M
9	◐	06:05	**06:55**	**04:13**	04:32	12H50M	06:31	**07:51**	**04:45**	05:29	13H20M	06:29	**07:20**	**04:38**	04:58	12H51M
10	◐	06:04	**06:56**	**05:09**	04:56	12H52M	06:29	**07:53**	**05:52**	05:43	13H24M	06:28	**07:21**	**05:34**	05:21	12H53M
11	◐	06:02	**06:56**	**06:04**	05:19	12H54M	06:27	**07:54**	**06:58**	05:56	13H27M	06:27	**07:22**	**06:30**	05:44	12H55M
12	◐	06:01	**06:57**	**07:00**	05:43	12H56M	06:25	**07:55**	**08:04**	06:09	13H30M	06:25	**07:22**	**07:26**	06:08	12H57M
13	○	06:00	**06:58**	**07:56**	06:08	12H58M	06:24	**07:57**	**09:12**	06:24	13H33M	06:24	**07:23**	**08:23**	06:33	12H59M
14	◑	05:59	**06:59**	**08:55**	06:36	13H0M	06:22	**07:58**	**10:21**	06:41	13H36M	06:23	**07:24**	**09:22**	07:00	13H1M
15	◑	05:57	**06:59**	**09:54**	07:08	13H2M	06:20	**08:00**	**11:30**	07:03	13H40M	06:21	**07:25**	**10:21**	07:32	13H4M
16	◑	05:56	**07:00**	**10:53**	07:45	13H4M	06:18	**08:01**	–	07:31	13H43M	06:20	**07:25**	**11:20**	08:09	13H5M
17	◑	05:55	**07:01**	**11:50**	08:29	13H6M	06:16	**08:02**	12:37	08:09	13H46M	06:19	**07:26**	–	08:52	13H7M
18	◑	05:54	**07:02**	–	09:20	13H8M	06:14	**08:04**	01:37	08:58	13H50M	06:18	**07:27**	12:17	09:43	13H9M
19	◑	05:53	**07:02**	12:42	10:18	13H9M	06:12	**08:05**	02:27	09:59	13H53M	06:17	**07:28**	01:10	10:41	13H11M
20	◑	05:52	**07:03**	01:29	11:20	13H11M	06:10	**08:07**	03:07	11:09	13H57M	06:15	**07:29**	01:56	11:44	13H14M
21	◑	05:50	**07:04**	02:10	**12:26**	13H14M	06:09	**08:08**	03:38	**12:26**	13H59M	06:14	**07:29**	02:37	**12:51**	13H15M
22	◑	05:49	**07:05**	02:46	**01:33**	13H16M	06:07	**08:09**	04:03	**01:46**	14H2M	06:13	**07:30**	03:12	**01:58**	13H17M
23	◑	05:48	**07:05**	03:18	**02:41**	13H17M	06:05	**08:11**	04:23	**03:07**	14H6M	06:12	**07:31**	03:44	**03:06**	13H19M
24	◑	05:47	**07:06**	03:49	**03:50**	13H19M	06:03	**08:12**	04:41	**04:29**	14H9M	06:11	**07:32**	04:14	**04:15**	13H21M
25	◑	05:46	**07:07**	04:18	**05:00**	13H21M	06:02	**08:14**	04:58	**05:53**	14H12M	06:10	**07:32**	04:44	**05:26**	13H22M
26	◑	05:45	**07:08**	04:50	**06:13**	13H23M	06:00	**08:15**	05:16	**07:20**	14H15M	06:09	**07:33**	05:14	**06:40**	13H24M
27	●	05:44	**07:08**	05:24	**07:29**	13H24M	05:58	**08:16**	05:37	**08:51**	14H18M	06:07	**07:34**	05:48	**07:56**	13H27M
28	◐	05:43	**07:09**	06:03	**08:46**	13H26M	05:56	**08:18**	06:03	**10:22**	14H22M	06:06	**07:35**	06:27	**09:14**	13H29M
29	◐	05:42	**07:10**	06:50	**10:02**	13H28M	05:55	**08:19**	06:38	**11:47**	14H24M	06:05	**07:36**	07:14	**10:30**	13H31M
30	◐	05:41	**07:11**	07:46	**11:11**	13H30M	05:53	**08:21**	07:26	–	14H28M	06:04	**07:36**	08:09	**11:39**	13H32M

May

Worth watching: May begins with a conjunction of the moon and Mars on the 3rd. The Eta Aquarids meteor shower will peak on the 5th. The planets Venus and Saturn will continue to sit together on the sky during the month of May, as they did in April. On the 22nd and the 23rd, the Moon will be in conjunction with Venus and Saturn respectively, and on the night of the 22nd it will line up right in between the two planets for a spectacular show.



D. = Day of the Month P. = Phase of the Moon LOD = Length of Day *Bold indicates PM time

D.	P.	NEW YORK CITY					RICHMOND					ATLANTA				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	🌒	05:54	**07:53**	08:41	12:00	13H59M	06:14	**08:00**	09:09	12:01	13H46M	06:49	**08:21**	09:52	12:16	13H32M
2	🌒	05:53	**07:54**	09:50	12:59	14H1M	06:13	**08:01**	10:17	01:00	13H48M	06:48	**08:22**	10:59	01:16	13H34M
3	🌒	05:52	**07:55**	11:01	01:44	14H3M	06:12	**08:02**	11:26	01:47	13H50M	06:47	**08:23**	**12:06**	02:04	13H36M
4	🌓	05:51	**07:56**	**12:12**	02:19	14H5M	06:11	**08:03**	**12:34**	02:24	13H52M	06:46	**08:23**	**01:12**	02:43	13H37M
5	🌔	05:49	**07:57**	**01:18**	02:47	14H8M	06:10	**08:04**	**01:38**	02:54	13H54M	06:45	**08:24**	**02:13**	03:16	13H39M
6	🌔	05:48	**07:58**	**02:22**	03:10	14H10M	06:09	**08:05**	**02:40**	03:20	13H56M	06:44	**08:25**	**03:12**	03:43	13H41M
7	🌔	05:47	**07:59**	**03:23**	03:30	14H12M	06:08	**08:05**	**03:38**	03:42	13H57M	06:43	**08:26**	**04:0**8	04:08	13H43M
8	🌔	05:46	**08:00**	**04:23**	03:49	14H14M	06:07	**08:06**	**04:36**	04:03	13H59M	06:42	**08:27**	**05:04**	04:32	13H45M
9	🌔	05:45	**08:01**	**05:24**	04:08	14H16M	06:06	**08:07**	**05:34**	04:24	14H1M	06:41	**08:27**	**05:59**	04:55	13H46M
10	🌔	05:44	**08:02**	**06:25**	04:28	14H18M	06:05	**08:08**	**06:33**	04:46	14H3M	06:40	**08:28**	**06:56**	05:19	13H48M
11	🌔	05:43	**08:03**	**07:27**	04:50	14H20M	06:04	**08:09**	**07:33**	05:10	14H5M	06:39	**08:29**	**07:53**	05:46	13H50M
12	🌕	05:42	**08:04**	**08:31**	05:15	14H22M	06:03	**08:10**	**08:35**	05:38	14H7M	06:39	**08:30**	**08:53**	06:16	13H51M
13	🌖	05:41	**08:05**	**09:34**	05:46	14H24M	06:02	**08:11**	**09:36**	06:11	14H9M	06:38	**08:30**	**09:52**	06:51	13H52M
14	🌖	05:40	**08:06**	**10:34**	06:24	14H26M	06:01	**08:12**	**10:35**	06:50	14H11M	06:37	**08:31**	**10:50**	07:32	13H54M
15	🌖	05:39	**08:07**	**11:29**	07:10	14H28M	06:00	**08:12**	**11:30**	07:38	14H12M	06:36	**08:32**	**11:44**	08:21	13H56M
16	🌖	05:38	**08:08**	–	08:06	14H30M	05:59	**08:13**	–	08:33	14H14M	06:36	**08:33**	–	09:16	13H57M
17	🌖	05:37	**08:09**	12:16	09:08	14H32M	05:59	**08:14**	12:18	09:35	14H15M	06:35	**08:33**	12:33	10:16	13H58M
18	🌖	05:36	**08:09**	12:55	10:16	14H33M	05:58	**08:15**	12:58	10:41	14H17M	06:34	**08:34**	01:16	11:20	14H0M
19	🌖	05:35	**08:10**	01:28	11:26	14H35M	05:57	**08:16**	01:33	11:48	14H19M	06:34	**08:35**	01:53	**12:25**	14H1M
20	🌗	05:34	**08:11**	01:55	**12:37**	14H37M	05:56	**08:17**	02:03	**12:56**	14H21M	06:33	**08:35**	02:25	**01:31**	14H2M
21	🌘	05:34	**08:12**	02:20	**01:49**	14H38M	05:56	**08:17**	02:31	**02:05**	14H21M	06:33	**08:36**	02:55	**02:37**	14H3M
22	🌘	05:33	**08:13**	02:43	**03:01**	14H40M	05:55	**08:18**	02:56	**03:15**	14H23M	06:32	**08:37**	03:24	**03:44**	14H5M
23	🌘	05:32	**08:14**	03:07	**04:16**	14H42M	05:54	**08:19**	03:22	**04:28**	14H25M	06:32	**08:38**	03:53	**04:53**	14H6M
24	🌘	05:31	**08:15**	03:32	**05:35**	14H44M	05:54	**08:20**	03:51	**05:43**	14H26M	06:31	**08:38**	04:24	**06:06**	14H7M
25	🌘	05:31	**08:16**	04:02	**06:57**	14H45M	05:53	**08:21**	04:23	**07:02**	14H28M	06:31	**08:39**	04:59	**07:22**	14H8M
26	🌘	05:30	**08:17**	04:38	**08:19**	14H47M	05:53	**08:21**	05:02	**08:22**	14H28M	06:30	**08:40**	05:41	**08:39**	14H10M
27	🌑	05:30	**08:17**	05:24	**09:36**	14H47M	05:52	**08:22**	05:50	**09:38**	14H30M	06:30	**08:40**	06:32	**09:53**	14H10M
28	🌒	05:29	**08:18**	06:21	**10:43**	14H49M	05:52	**08:23**	06:49	**10:44**	14H31M	06:29	**08:41**	07:32	**10:59**	14H12M
29	🌒	05:28	**08:19**	07:29	**11:36**	14H51M	05:51	**08:23**	07:56	**11:38**	14H32M	06:29	**08:41**	08:39	**11:54**	14H12M
30	🌒	05:28	**08:20**	08:42	–	14H52M	05:51	**08:24**	09:08	–	14H33M	06:29	**08:42**	09:49	–	14H13M
31	🌒	05:27	**08:21**	09:55	12:16	14H54M	05:50	**08:25**	10:19	12:20	14H35M	06:28	**08:43**	10:57	12:39	14H15M

D.	P.	ORLANDO					MINNEAPOLIS					CHICAGO				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	◐	06:45	**08:01**	09:56	--	13H16M	06:02	**08:19**	08:41	12:42	14H17M	05:46	**07:49**	08:33	12:02	14H3M
2	◐	06:44	**08:02**	11:02	12:47	13H18M	06:00	**08:20**	09:52	01:38	14H20M	05:45	**07:51**	09:42	01:00	14H6M
3	◐	06:43	**08:02**	**12:07**	01:37	13H19M	05:59	**08:22**	11:06	02:20	14H23M	05:44	**07:52**	10:55	01:44	14H8M
4	◐	06:42	**08:03**	**01:10**	02:19	13H21M	05:58	**08:23**	**12:20**	02:51	14H25M	05:42	**07:53**	**12:05**	02:18	14H11M
5	◐	06:41	**08:03**	**02:08**	02:55	13H22M	05:56	**08:24**	**01:31**	03:15	14H28M	05:41	**07:54**	**01:13**	02:45	14H13M
6	◐	06:41	**08:04**	**03:04**	03:26	13H23M	05:55	**08:25**	**02:38**	03:34	14H30M	05:40	**07:55**	**02:18**	03:07	14H15M
7	◐	06:40	**08:05**	**03:57**	03:53	13H25M	05:54	**08:26**	**03:42**	03:51	14H32M	05:39	**07:56**	**03:20**	03:26	14H17M
8	◐	06:39	**08:05**	**04:49**	04:20	13H26M	05:52	**08:28**	**04:46**	04:07	14H36M	05:38	**07:57**	**04:21**	03:44	14H19M
9	◐	06:38	**08:06**	**05:42**	04:46	13H28M	05:51	**08:29**	**05:50**	04:22	14H38M	05:36	**07:58**	**05:22**	04:02	14H22M
10	◐	06:38	**08:06**	**06:35**	05:13	13H28M	05:50	**08:30**	**06:54**	04:39	14H40M	05:35	**07:59**	**06:24**	04:21	14H24M
11	◐	06:37	**08:07**	**07:30**	05:42	13H30M	05:48	**08:31**	**08:00**	04:57	14H43M	05:34	**08:00**	**07:27**	04:42	14H26M
12	○	06:36	**08:08**	**08:27**	06:15	13H32M	05:47	**08:32**	**09:07**	05:20	14H45M	05:33	**08:01**	**08:32**	05:07	14H28M
13	◑	06:36	**08:08**	**09:24**	06:53	13H32M	05:46	**08:34**	**10:13**	05:48	14H48M	05:32	**08:02**	**09:35**	05:37	14H30M
14	◑	06:35	**08:09**	**10:21**	07:36	13H34M	05:45	**08:35**	**11:15**	06:24	14H50M	05:31	**08:03**	**10:36**	06:15	14H32M
15	◑	06:35	**08:09**	**11:15**	08:25	13H34M	05:44	**08:36**	–	07:09	14H52M	05:30	**08:04**	**11:30**	07:01	14H34M
16	◑	06:34	**08:10**	–	09:20	13H36M	05:43	**08:37**	12:09	08:05	14H54M	05:29	**08:05**	–	07:57	14H36M
17	◑	06:34	**08:11**	12:05	10:19	13H37M	05:42	**08:38**	12:54	09:11	14H56M	05:28	**08:06**	12:17	09:01	14H38M
18	◑	06:33	**08:11**	12:50	11:21	13H38M	05:41	**08:39**	01:30	10:22	14H58M	05:27	**08:07**	12:55	10:09	14H40M
19	◑	06:33	**08:12**	01:29	**12:23**	13H39M	05:40	**08:40**	01:59	11:36	15H0M	05:26	**08:08**	01:26	11:20	14H42M
20	◑	06:32	**08:12**	02:05	**01:25**	13H40M	05:39	**08:41**	02:23	**12:51**	15H2M	05:25	**08:09**	01:53	**12:32**	14H44M
21	◑	06:32	**08:13**	02:38	**02:27**	13H41M	05:38	**08:42**	02:43	**02:06**	15H4M	05:25	**08:10**	02:17	**01:45**	14H45M
22	◑	06:31	**08:13**	03:10	**03:31**	13H42M	05:37	**08:43**	03:03	**03:23**	15H6M	05:24	**08:11**	02:39	**02:59**	14H47M
23	◑	06:31	**08:14**	03:43	**04:36**	13H43M	05:36	**08:45**	03:22	**04:43**	15H9M	05:23	**08:12**	03:01	**04:15**	14H49M
24	◑	06:30	**08:15**	04:18	**05:45**	13H45M	05:35	**08:46**	03:44	**06:06**	15H11M	05:22	**08:13**	03:26	**05:35**	14H51M
25	◑	06:30	**08:15**	04:57	**06:57**	13H45M	05:34	**08:47**	04:10	**07:32**	15H13M	05:22	**08:14**	03:55	**06:58**	14H52M
26	◑	06:30	**08:16**	05:42	**08:11**	13H46M	05:33	**08:48**	04:42	**08:59**	15H15M	05:21	**08:15**	04:30	**08:21**	14H54M
27	●	06:29	**08:16**	06:35	**09:24**	13H47M	05:33	**08:48**	05:25	**10:18**	15H15M	05:20	**08:15**	05:16	**09:39**	14H55M
28	◐	06:29	**08:17**	07:36	**10:30**	13H48M	05:32	**08:49**	06:21	**11:23**	15H17M	05:20	**08:16**	06:13	**10:45**	14H56M
29	◐	06:29	**08:17**	08:43	**11:26**	13H48M	05:31	**08:50**	07:30	–	15H19M	05:19	**08:17**	07:21	**11:36**	14H58M
30	◐	06:29	**08:18**	09:51	–	13H49M	05:31	**08:51**	08:46	12:13	15H20M	05:19	**08:18**	08:35	–	14H59M
31	◐	06:28	**08:18**	10:57	12:14	13H50M	05:30	**08:52**	10:03	12:50	15H22M	05:18	**08:19**	09:49	12:16	15H1M

D.	P.	KANSAS CITY					MEMPHIS					SAN ANTONIO				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	◐	06:20	**08:12**	09:14	12:19	13H52M	06:09	**07:46**	09:11	–	13H37M	06:52	**08:11**	10:05	12:01	13H19M
2	◐	06:18	**08:13**	10:23	01:17	13H55M	06:08	**07:47**	10:18	12:44	13H39M	06:51	**08:11**	11:11	01:00	13H20M
3	◐	06:17	**08:14**	11:33	02:03	13H57M	06:07	**07:48**	11:26	01:32	13H41M	06:50	**08:12**	**12:17**	01:50	13H22M
4	◐	06:16	**08:15**	**12:42**	02:39	13H59M	06:06	**07:49**	**12:32**	02:10	13H43M	06:49	**08:13**	**01:19**	02:32	13H24M
5	◐	06:15	**08:15**	**01:47**	03:07	14H0M	06:05	**07:50**	**01:35**	02:41	13H45M	06:48	**08:13**	**02:18**	03:06	13H25M
6	◐	06:14	**08:16**	**02:49**	03:31	14H2M	06:04	**07:50**	**02:34**	03:08	13H46M	06:48	**08:14**	**03:14**	03:36	13H26M
7	◐	06:13	**08:17**	**03:49**	03:53	14H4M	06:03	**07:51**	**03:32**	03:32	13H48M	06:47	**08:15**	**04:08**	04:04	13H28M
8	◐	06:12	**08:18**	**04:48**	04:13	14H6M	06:02	**07:52**	**04:28**	03:55	13H50M	06:46	**08:15**	**05:01**	04:29	13H29M
9	◐	06:11	**08:19**	**05:47**	04:32	14H8M	06:01	**07:53**	**05:24**	04:17	13H52M	06:45	**08:16**	**05:54**	04:55	13H31M
10	◐	06:10	**08:20**	**06:47**	04:53	14H10M	06:00	**07:54**	**06:21**	04:40	13H54M	06:45	**08:16**	**06:47**	05:22	13H31M
11	◐	06:09	**08:21**	**07:49**	05:17	14H12M	05:59	**07:54**	**07:20**	05:06	13H55M	06:44	**08:17**	**07:43**	05:51	13H33M

May

D. = Day of the Month P. = Phase of the Moon LOD = Length of Day *Bold indicates PM time

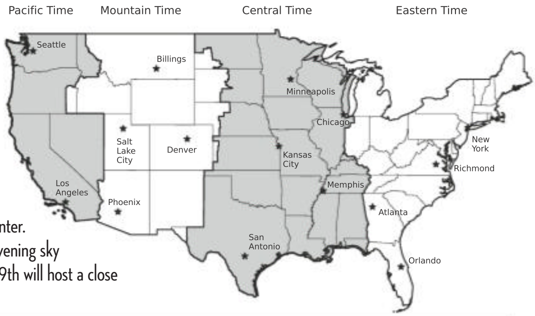
D.	P.	KANSAS CITY					MEMPHIS					SAN ANTONIO				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
12	○	06:08	**08:22**	**08:51**	05:44	14H14M	05:58	**07:55**	**08:20**	05:36	13H57M	06:43	**08:18**	**08:40**	06:23	13H35M
13	◑	06:07	**08:23**	**09:53**	06:16	14H16M	05:58	**07:56**	**09:20**	06:10	13H58M	06:43	**08:18**	**09:38**	07:01	13H35M
14	◑	06:06	**08:24**	**10:53**	06:55	14H18M	05:57	**07:57**	**10:19**	06:51	14H0M	06:42	**08:19**	**10:35**	07:44	13H37M
15	◑	06:05	**08:25**	**11:47**	07:42	14H20M	05:56	**07:57**	**11:13**	07:39	14H1M	06:41	**08:20**	**11:29**	08:33	13H39M
16	◑	06:04	**08:26**	–	08:38	14H22M	05:55	**07:58**	–	08:34	14H3M	06:41	**08:20**	–	09:29	13H39M
17	◑	06:03	**08:27**	12:34	09:41	14H24M	05:55	**07:59**	12:01	09:36	14H4M	06:40	**08:21**	12:18	10:28	13H41M
18	◑	06:02	**08:28**	01:14	10:48	14H26M	05:54	**08:00**	12:43	10:40	14H6M	06:40	**08:21**	01:02	11:30	13H41M
19	◑	06:02	**08:28**	01:47	11:56	14H26M	05:53	**08:01**	01:19	11:46	14H8M	06:39	**08:22**	01:41	**12:33**	13H43M
20	◑	06:01	**08:29**	02:16	**01:06**	14H28M	05:53	**08:01**	01:51	**12:53**	14H8M	06:39	**08:23**	02:16	**01:35**	13H44M
21	◕	06:00	**08:30**	02:42	**02:16**	14H30M	05:52	**08:02**	02:20	**02:00**	14H10M	06:38	**08:23**	02:49	**02:38**	13H45M
22	◕	06:00	**08:31**	03:07	**03:27**	14H31M	05:51	**08:03**	02:47	**03:08**	14H12M	06:38	**08:24**	03:20	**03:42**	13H46M
23	◕	05:59	**08:32**	03:31	**04:41**	14H33M	05:51	**08:04**	03:15	**04:18**	14H13M	06:37	**08:24**	03:53	**04:49**	13H47M
24	◕	05:58	**08:33**	03:59	**05:59**	14H35M	05:50	**08:04**	03:45	**05:32**	14H14M	06:37	**08:25**	04:27	**05:58**	13H48M
25	◕	05:58	**08:33**	04:30	**07:19**	14H35M	05:50	**08:05**	04:20	**06:49**	14H15M	06:37	**08:26**	05:06	**07:11**	13H49M
26	◕	05:57	**08:34**	05:08	**08:40**	14H37M	05:49	**08:06**	05:01	**08:07**	14H17M	06:36	**08:26**	05:51	**08:26**	13H50M
27	●	05:56	**08:35**	05:56	**09:56**	14H39M	05:49	**08:06**	05:51	**09:22**	14H17M	06:36	**08:27**	06:44	**09:38**	13H51M
28	◐	05:56	**08:36**	06:54	**11:02**	14H40M	05:48	**08:07**	06:51	**10:28**	14H19M	06:36	**08:27**	07:45	**10:44**	13H51M
29	◐	05:55	**08:37**	08:02	**11:54**	14H42M	05:48	**08:08**	07:58	**11:22**	14H20M	06:35	**08:28**	08:52	**11:40**	13H53M
30	◐	05:55	**08:37**	09:14	–	14H42M	05:48	**08:08**	09:08	–	14H20M	06:35	**08:28**	10:00	–	13H53M
31	◐	05:55	**08:38**	10:26	12:35	14H43M	05:47	**08:09**	10:18	12:06	14H22M	06:35	**08:29**	11:06	12:26	13H54M

D.	P.	BILLINGS					SALT LAKE CITY					DENVER				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	◐	06:01	**08:22**	08:40	12:50	14H21M	06:26	**08:24**	09:19	12:39	13H58M	06:00	**07:55**	08:55	12:05	13H55M
2	◐	05:59	**08:23**	09:52	01:45	14H24M	06:24	**08:25**	10:29	01:36	14H1M	05:59	**07:56**	10:04	01:03	13H57M
3	◐	05:58	**08:25**	11:07	02:26	14H27M	06:23	**08:26**	11:40	02:20	14H3M	05:58	**07:57**	11:15	01:48	13H59M
4	◐	05:56	**08:26**	**12:22**	02:56	14H30M	06:22	**08:27**	**12:50**	02:54	14H5M	05:56	**07:58**	**12:24**	02:23	14H2M
5	◐	05:55	**08:27**	**01:33**	03:19	14H32M	06:21	**08:28**	**01:57**	03:21	14H7M	05:55	**07:58**	**01:30**	02:51	14H3M
6	◐	05:54	**08:28**	**02:40**	03:37	14H34M	06:19	**08:29**	**03:00**	03:44	14H10M	05:54	**07:59**	**02:32**	03:14	14H5M
7	◐	05:52	**08:30**	**03:46**	03:53	14H38M	06:18	**08:30**	**04:01**	04:04	14H12M	05:53	**08:00**	**03:33**	03:35	14H7M
8	◐	05:51	**08:31**	**04:50**	04:08	14H40M	06:17	**08:31**	**05:01**	04:23	14H14M	05:52	**08:01**	**04:32**	03:55	14H9M
9	◐	05:50	**08:32**	**05:54**	04:23	14H42M	06:16	**08:32**	**06:02**	04:41	14H16M	05:51	**08:02**	**05:31**	04:14	14H11M
10	◐	05:48	**08:33**	**07:00**	04:39	14H45M	06:15	**08:33**	**07:03**	05:01	14H18M	05:50	**08:03**	**06:32**	04:35	14H13M
11	◐	05:47	**08:35**	**08:07**	04:57	14H48M	06:14	**08:34**	**08:05**	05:23	14H20M	05:49	**08:04**	**07:34**	04:58	14H15M
12	○	05:46	**08:36**	**09:14**	05:19	14H50M	06:13	**08:35**	**09:09**	05:49	14H22M	05:48	**08:05**	**08:37**	05:24	14H17M
13	◑	05:44	**08:37**	**10:21**	05:47	14H53M	06:12	**08:36**	**10:12**	06:21	14H24M	05:47	**08:06**	**09:39**	05:56	14H19M
14	◑	05:43	**08:38**	**11:23**	06:22	14H55M	06:11	**08:37**	**11:12**	07:00	14H26M	05:46	**08:07**	**10:39**	06:35	14H21M
15	◑	05:42	**08:39**	–	07:08	14H57M	06:10	**08:38**	–	07:47	14H28M	05:45	**08:08**	**11:33**	07:23	14H23M
16	◑	05:41	**08:41**	12:16	08:05	15H0M	06:09	**08:39**	12:06	08:43	14H30M	05:44	**08:09**	–	08:19	14H25M
17	◑	05:40	**08:42**	01:01	09:11	15H2M	06:08	**08:40**	12:52	09:47	14H32M	05:43	**08:10**	12:19	09:22	14H27M
18	◑	05:39	**08:43**	01:36	10:23	15H4M	06:07	**08:41**	01:30	10:55	14H34M	05:42	**08:11**	12:59	10:29	14H29M
19	◑	05:38	**08:44**	02:03	11:37	15H6M	06:06	**08:42**	02:02	12:05	14H36M	05:42	**08:12**	01:31	11:39	14H30M
20	◑	05:37	**08:45**	02:26	**12:53**	15H8M	06:06	**08:43**	02:30	01:16	14H37M	05:41	**08:13**	02:00	**12:49**	14H32M

D.	P.	BILLINGS					SALT LAKE CITY					DENVER				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
21	🌘	05:36	**08:46**	02:46	**02:10**	15H10M	06:05	**08:44**	02:54	**02:28**	14H39M	05:40	**08:13**	02:25	**01:59**	14H33M
22	🌘	05:35	**08:47**	03:05	**03:28**	15H12M	06:04	**08:45**	03:17	**03:41**	14H41M	05:39	**08:14**	02:49	**03:11**	14H35M
23	🌘	05:34	**08:48**	03:24	**04:48**	15H14M	06:03	**08:46**	03:41	**04:56**	14H43M	05:39	**08:15**	03:13	**04:26**	14H36M
24	🌘	05:33	**08:49**	03:44	**06:13**	15H16M	06:03	**08:47**	04:07	**06:15**	14H44M	05:38	**08:16**	03:40	**05:44**	14H38M
25	🌘	05:32	**08:50**	04:09	**07:40**	15H18M	06:02	**08:48**	04:37	**07:37**	14H46M	05:37	**08:17**	04:11	**07:05**	14H40M
26	🌘	05:31	**08:51**	04:41	**09:07**	15H20M	06:01	**08:48**	05:14	**08:59**	14H47M	05:37	**08:18**	04:49	**08:26**	14H41M
27	🌑	05:31	**08:52**	05:24	**10:26**	15H21M	06:01	**08:49**	06:01	**10:16**	14H48M	05:36	**08:18**	05:36	**09:42**	14H42M
28	🌒	05:30	**08:53**	06:20	**11:31**	15H23M	06:00	**08:50**	06:59	**11:21**	14H50M	05:36	**08:19**	06:35	**10:48**	14H43M
29	🌒	05:29	**08:54**	07:30	–	15H25M	06:00	**08:51**	08:08	–	14H51M	05:35	**08:20**	07:43	**11:40**	14H45M
30	🌒	05:29	**08:55**	08:46	12:20	15H26M	05:59	**08:52**	09:21	12:12	14H53M	05:35	**08:21**	08:56	–	14H46M
31	🌒	05:28	**08:56**	10:04	12:55	15H28M	05:59	**08:52**	10:34	12:51	14H53M	05:34	**08:21**	10:08	12:20	14H47M

D.	P.	PHOENIX					SEATTLE					LOS ANGELES				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	🌒	05:40	**07:11**	08:49	–	13H31M	05:52	**08:22**	08:28	12:58	14H30M	06:03	**07:37**	09:12	--	13H34M
2	🌒	05:39	**07:12**	09:56	12:09	13H33M	05:50	**08:23**	09:40	01:52	14H33M	06:02	**07:38**	10:20	12:37	13H36M
3	🌒	05:38	**07:13**	11:03	12:57	13H35M	05:48	**08:25**	10:58	02:31	14H37M	06:01	**07:39**	11:27	01:24	13H38M
4	🌓	05:37	**07:14**	**12:08**	01:36	13H37M	05:47	**08:26**	**12:14**	02:59	14H39M	06:00	**07:40**	**12:32**	02:03	13H40M
5	🌔	05:36	**07:14**	**01:09**	02:08	13H38M	05:45	**08:28**	**01:27**	03:19	14H43M	05:59	**07:40**	**01:34**	02:34	13H41M
6	🌔	05:35	**07:15**	**02:07**	02:36	13H40M	05:44	**08:29**	**02:36**	03:36	14H45M	05:58	**07:41**	**02:33**	03:02	13H43M
7	🌔	05:34	**07:16**	**03:03**	03:01	13H42M	05:42	**08:30**	**03:43**	03:50	14H48M	05:58	**07:42**	**03:29**	03:26	13H44M
8	🌔	05:33	**07:17**	**03:59**	03:24	13H44M	05:41	**08:32**	**04:49**	04:04	14H51M	05:57	**07:43**	**04:24**	03:49	13H46M
9	🌔	05:32	**07:17**	**04:54**	03:48	13H45M	05:39	**08:33**	**05:55**	04:17	14H54M	05:56	**07:43**	**05:20**	04:12	13H47M
10	🌔	05:32	**07:18**	**05:50**	04:12	13H46M	05:38	**08:34**	**07:02**	04:31	14H56M	05:55	**07:44**	**06:17**	04:37	13H49M
11	🌔	05:31	**07:19**	**06:48**	04:39	13H48M	05:37	**08:36**	**08:11**	04:48	14H59M	05:54	**07:45**	**07:15**	05:03	13H51M
12	🌕	05:30	**07:20**	**07:47**	05:10	13H50M	05:35	**08:37**	**09:20**	05:08	15H2M	05:53	**07:46**	**08:14**	05:34	13H53M
13	🌖	05:29	**07:20**	**08:46**	05:45	13H51M	05:34	**08:38**	**10:28**	05:35	15H4M	05:53	**07:46**	**09:14**	06:09	13H53M
14	🌖	05:28	**07:21**	**09:44**	06:27	13H53M	05:33	**08:39**	**11:31**	06:09	15H6M	05:52	**07:47**	**10:12**	06:51	13H55M
15	🌖	05:28	**07:22**	**10:38**	07:16	13H54M	05:31	**08:41**	–	06:55	15H10M	05:51	**07:48**	**11:06**	07:40	13H57M
16	🌖	05:27	**07:23**	**11:26**	08:12	13H56M	05:30	**08:42**	12:24	07:52	15H12M	05:50	**07:49**	**11:54**	08:36	13H59M
17	🌖	05:26	**07:23**	–	09:13	13H57M	05:29	**08:43**	01:07	08:59	15H14M	05:50	**07:49**	–	09:37	13H59M
18	🌖	05:26	**07:24**	12:09	10:17	13H58M	05:28	**08:44**	01:40	10:13	15H16M	05:49	**07:50**	12:36	10:41	14H1M
19	🌖	05:25	**07:25**	12:45	11:22	14H0M	05:27	**08:46**	02:06	11:30	15H19M	05:48	**07:51**	01:12	11:46	14H3M
20	🌗	05:24	**07:26**	01:18	**12:27**	14H2M	05:26	**08:47**	02:27	**12:48**	15H21M	05:48	**07:52**	01:44	**12:52**	14H4M
21	🌘	05:24	**07:26**	01:48	**01:33**	14H2M	05:25	**08:48**	02:44	**02:06**	15H23M	05:47	**07:52**	02:14	**01:58**	14H5M
22	🌘	05:23	**07:27**	02:17	**02:40**	14H4M	05:24	**08:49**	03:01	**03:26**	15H25M	05:47	**07:53**	02:42	**03:06**	14H6M
23	🌘	05:23	**07:28**	02:46	**03:49**	14H5M	05:23	**08:50**	03:18	**04:49**	15H27M	05:46	**07:54**	03:11	**04:16**	14H8M
24	🌘	05:22	**07:28**	03:18	**05:02**	14H6M	05:22	**08:51**	03:37	**06:16**	15H29M	05:46	**07:54**	03:42	**05:29**	14H8M
25	🌘	05:22	**07:29**	03:54	**06:18**	14H7M	05:21	**08:53**	04:00	**07:46**	15H32M	05:45	**07:55**	04:18	**06:45**	14H10M
26	🌘	05:21	**07:30**	04:37	**07:35**	14H9M	05:20	**08:54**	04:30	**09:15**	15H34M	05:45	**07:56**	05:00	**08:03**	14H11M
27	🌑	05:21	**07:30**	05:28	**08:48**	14H9M	05:19	**08:55**	05:12	**10:35**	15H36M	05:44	**07:56**	05:52	**09:16**	14H12M
28	🌒	05:21	**07:31**	06:29	**09:53**	14H10M	05:18	**08:56**	06:08	**11:39**	15H38M	05:44	**07:57**	06:52	**10:21**	14H13M
29	🌒	05:20	**07:32**	07:36	**10:48**	14H12M	05:17	**08:57**	07:18	–	15H40M	05:44	**07:58**	08:00	**11:15**	14H14M
30	🌒	05:20	**07:32**	08:46	**11:32**	14H12M	05:17	**08:58**	08:36	12:25	15H41M	05:43	**07:58**	09:10	**11:59**	14H15M
31	🌒	05:20	**07:33**	09:54	–	14H13M	05:16	**08:59**	09:56	12:58	15H43M	05:43	**07:59**	10:18	–	14H16M

June



Worth watching: The summer solstice occurs on the 20th; this will be the longest day of the year. After the solstice, the days begin to turn shorter as we head toward the fall and winter. Mercury will reach its highest altitude in the evening sky for the entire year around the 26th, and the 29th will host a close approach of the moon and Mars.

D. = Day of the Month P. = Phase of the Moon LOD = Length of Day *Bold indicates PM time

D.	P.	NEW YORK CITY					RICHMOND					ATLANTA				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	◐	05:27	**08:21**	11:05	12:47	14H54M	05:50	**08:26**	11:26	12:54	14H36M	06:28	**08:43**	**12:02**	01:15	14H15M
2	◐	05:27	**08:22**	**12:12**	01:13	14H55M	05:50	**08:26**	**12:30**	01:22	14H36M	06:28	**08:44**	**01:03**	01:45	14H16M
3	◐	05:26	**08:23**	**01:15**	01:34	14H57M	05:49	**08:27**	**01:31**	01:46	14H38M	06:27	**08:44**	**02:01**	02:11	14H17M
4	◐	05:26	**08:23**	**02:16**	01:54	14H57M	05:49	**08:27**	**02:29**	02:07	14H38M	06:27	**08:45**	**02:57**	02:35	14H18M
5	◐	05:26	**08:24**	**03:16**	02:13	14H58M	05:49	**08:28**	**03:27**	02:28	14H39M	06:27	**08:46**	**03:53**	02:59	14H19M
6	◐	05:25	**08:25**	**04:16**	02:32	15H0M	05:49	**08:29**	**04:25**	02:50	14H40M	06:27	**08:46**	**04:49**	03:23	14H19M
7	◐	05:25	**08:25**	**05:18**	02:54	15H0M	05:48	**08:29**	**05:25**	03:13	14H41M	06:27	**08:47**	**05:46**	03:48	14H20M
8	◐	05:25	**08:26**	**06:22**	03:18	15H1M	05:48	**08:30**	**06:26**	03:40	14H42M	06:27	**08:47**	**06:45**	04:17	14H20M
9	◐	05:25	**08:26**	**07:25**	03:47	15H1M	05:48	**08:30**	**07:28**	04:11	14H42M	06:27	**08:47**	**07:45**	04:51	14H20M
10	◐	05:25	**08:27**	**08:27**	04:23	15H2M	05:48	**08:31**	**08:28**	04:49	14H43M	06:26	**08:48**	**08:44**	05:30	14H22M
11	○	05:24	**08:27**	**09:24**	05:07	15H3M	05:48	**08:31**	**09:25**	05:34	14H43M	06:26	**08:48**	**09:40**	06:17	14H22M
12	◑	05:24	**08:28**	**10:14**	06:00	15H4M	05:48	**08:32**	**10:15**	06:28	14H44M	06:26	**08:49**	**10:31**	07:10	14H23M
13	◑	05:24	**08:28**	**10:55**	07:02	15H4M	05:48	**08:32**	**10:58**	07:28	14H44M	06:26	**08:49**	**11:15**	08:10	14H23M
14	◑	05:24	**08:29**	**11:30**	08:09	15H5M	05:48	**08:32**	**11:35**	08:33	14H44M	06:27	**08:49**	**11:54**	09:14	14H22M
15	◑	05:24	**08:29**	**11:59**	09:18	15H5M	05:48	**08:A33**	–	09:41	14H45M	06:27	**08:50**	–	10:19	14H23M
16	◑	05:24	**08:29**	–	10:28	15H5M	05:48	**08:33**	12:06	10:48	14H45M	06:27	**08:50**	12:27	11:24	14H23M
17	◑	05:24	**08:30**	12:24	11:38	15H6M	05:48	**08:33**	12:34	11:56	14H45M	06:27	**08:50**	12:57	**12:28**	14H23M
18	◑	05:25	**08:30**	12:47	**12:49**	15H5M	05:48	**08:34**	12:59	**01:04**	14H46M	06:27	**08:51**	01:26	**01:33**	14H24M
19	◑	05:25	**08:30**	01:09	**02:01**	15H5M	05:49	**08:34**	01:24	**02:13**	14H45M	06:27	**08:51**	01:54	**02:39**	14H24M
20	◑	05:25	**08:31**	01:33	**03:15**	15H6M	05:49	**08:34**	01:51	**03:24**	14H45M	06:27	**08:51**	02:23	**03:48**	14H24M
21	◑	05:25	**08:31**	02:00	**04:33**	15H6M	05:49	**08:34**	02:20	**04:39**	14H45M	06:28	**08:51**	02:55	**05:00**	14H23M
22	◑	05:25	**08:31**	02:32	**05:53**	15H6M	05:49	**08:35**	02:55	**05:57**	14H46M	06:28	**08:52**	03:33	**06:15**	14H24M
23	◑	05:26	**08:31**	03:12	**07:12**	15H5M	05:49	**08:35**	03:38	**07:14**	14H46M	06:28	**08:52**	04:18	**07:30**	14H24M
24	◑	05:26	**08:31**	04:03	**08:23**	15H5M	05:50	**08:35**	04:31	**08:24**	14H45M	06:28	**08:52**	05:13	**08:39**	14H24M
25	●	05:26	**08:31**	05:06	**09:22**	15H5M	05:50	**08:35**	05:34	**09:24**	14H45M	06:29	**08:52**	06:17	**09:40**	14H23M
26	◐	05:27	**08:31**	06:18	**10:09**	15H4M	05:50	**08:35**	06:45	**10:12**	14H45M	06:29	**08:52**	07:27	**10:29**	14H23M
27	◐	05:27	**08:31**	07:33	**10:45**	15H4M	05:51	**08:35**	07:57	**10:50**	14H44M	06:29	**08:52**	08:37	**11:10**	14H23M
28	◐	05:27	**08:31**	08:46	**11:13**	15H4M	05:51	**08:35**	09:08	**11:21**	14H44M	06:30	**08:52**	09:45	**11:43**	14H22M
29	◐	05:28	**08:31**	09:56	**11:37**	15H3M	05:52	**08:35**	10:15	**11:47**	14H43M	06:30	**08:52**	10:50	–	14H22M
30	◐	05:28	**08:31**	11:02	**11:57**	15H3M	05:52	**08:35**	11:18	–	14H43M	06:30	**08:52**	11:50	12:11	14H22M

D.	P.	ORLANDO					MINNEAPOLIS					CHICAGO				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	🌒	06:28	**08:19**	11:58	12:53	13H51M	05:30	**08:53**	11:16	01:17	15H23M	05:18	**08:19**	11:00	12:46	15H1M
2	🌒	06:28	**08:19**	**12:56**	01:26	13H51M	05:29	**08:54**	**12:26**	01:38	15H25M	05:17	**08:20**	**12:07**	01:10	15H3M
3	🌓	06:28	**08:20**	**01:51**	01:55	13H52M	05:29	**08:55**	**01:33**	01:56	15H26M	05:17	**08:21**	**01:11**	01:31	15H4M
4	🌔	06:28	**08:20**	**02:44**	02:22	13H52M	05:28	**08:55**	**02:37**	02:13	15H27M	05:16	**08:22**	**02:13**	01:49	15H6M
5	🌔	06:28	**08:21**	**03:36**	02:49	13H53M	05:28	**08:56**	**03:41**	02:28	15H28M	05:16	**08:22**	**03:14**	02:07	15H6M
6	🌔	06:27	**08:21**	**04:29**	03:16	13H54M	05:27	**08:57**	**04:45**	02:45	15H30M	05:16	**08:23**	**04:15**	02:26	15H7M
7	🌔	06:27	**08:22**	**05:24**	03:44	13H55M	05:27	**08:57**	**05:50**	03:03	15H30M	05:16	**08:24**	**05:18**	02:46	15H8M
8	🌔	06:27	**08:22**	**06:20**	04:16	13H55M	05:27	**08:58**	**06:57**	03:24	15H31M	05:15	**08:24**	**06:22**	03:10	15H9M
9	🌔	06:27	**08:23**	**07:17**	04:52	13H56M	05:26	**08:59**	**08:04**	03:50	15H33M	05:15	**08:25**	**07:27**	03:39	15H10M
10	🌔	06:27	**08:23**	**08:15**	05:33	13H56M	05:26	**08:59**	**09:07**	04:23	15H33M	05:15	**08:25**	**08:29**	04:14	15H10M
11	🌕	06:27	**08:23**	**09:10**	06:21	13H56M	05:26	**09:00**	**10:05**	05:06	15H34M	05:15	**08:26**	**09:26**	04:58	15H11M
12	🌖	06:27	**08:24**	**10:02**	07:15	13H57M	05:26	**09:00**	**10:53**	06:00	15H34M	05:15	**08:26**	**10:15**	05:52	15H11M
13	🌖	06:27	**08:24**	**10:48**	08:13	13H57M	05:26	**09:01**	**11:31**	07:03	15H35M	05:15	**08:27**	**10:56**	06:54	15H12M
14	🌖	06:27	**08:24**	**11:30**	09:15	13H57M	05:26	**09:01**	–	08:13	15H35M	05:15	**08:27**	**11:29**	08:01	15H12M
15	🌖	06:28	**08:25**	–	10:17	13H57M	05:26	**09:02**	12:02	09:27	15H36M	05:15	**08:28**	**11:57**	09:12	15H13M
16	🌖	06:28	**08:25**	12:06	11:19	13H57M	05:26	**09:02**	12:27	10:41	15H36M	05:15	**08:28**	–	10:23	15H13M
17	🌖	06:28	**08:25**	12:40	**12:20**	13H57M	05:26	**09:02**	12:48	11:55	15H36M	05:15	**08:28**	12:21	11:34	15H13M
18	🌗	06:28	**08:26**	01:11	**01:21**	13H58M	05:26	**09:03**	01:07	**01:09**	15H37M	05:15	**08:29**	12:43	**12:46**	15H14M
19	🌘	06:28	**08:26**	01:42	**02:24**	13H58M	05:26	**09:03**	01:26	**02:25**	15H37M	05:15	**08:29**	01:04	**01:59**	15H14M
20	🌘	06:28	**08:26**	02:15	**03:29**	13H58M	05:26	**09:03**	01:46	**03:44**	15H37M	05:15	**08:29**	01:27	**03:14**	15H14M
21	🌘	06:29	**08:26**	02:51	**04:37**	13H57M	05:27	**09:03**	02:09	**05:06**	15H36M	05:16	**08:29**	01:53	**04:33**	15H13M
22	🌘	06:29	**08:26**	03:32	**05:49**	13H57M	05:27	**09:04**	02:37	**06:31**	15H37M	05:16	**08:29**	02:24	**05:55**	15H13M
23	🌘	06:29	**08:27**	04:20	**07:01**	13H58M	05:27	**09:04**	03:14	**07:52**	15H37M	05:16	**08:30**	03:04	**07:14**	15H14M
24	🌘	06:29	**08:27**	05:17	**08:10**	13H58M	05:27	**09:04**	04:04	**09:04**	15H37M	05:16	**08:30**	03:55	**08:25**	15H14M
25	🌑	06:30	**08:27**	06:21	**09:11**	13H57M	05:28	**09:04**	05:07	**10:01**	15H36M	05:17	**08:30**	04:58	**09:24**	15H13M
26	🌒	06:30	**08:27**	07:30	**10:03**	13H57M	05:28	**09:04**	06:20	**10:44**	15H36M	05:17	**08:30**	06:11	**10:09**	15H13M
27	🌒	06:30	**08:27**	08:38	**10:46**	13H57M	05:29	**09:04**	07:39	**11:16**	15H35M	05:17	**08:30**	07:26	**10:44**	15H13M
28	🌒	06:31	**08:27**	09:43	**11:23**	13H56M	05:29	**09:04**	08:56	**11:40**	15H35M	05:18	**08:30**	08:41	**11:11**	15H12M
29	🌒	06:31	**08:27**	10:44	**11:54**	13H56M	05:30	**09:04**	10:09	–	15H34M	05:18	**08:30**	09:51	**11:33**	15H12M
30	🌒	06:31	**08:27**	11:41	–	13H56M	05:30	**09:03**	11:18	12:00	15H33M	05:19	**08:30**	10:57	**11:53**	15H11M

D.	P.	KANSAS CITY					MEMPHIS					SAN ANTONIO				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	🌒	05:54	**08:39**	11:35	01:08	14H45M	05:47	**08:10**	11:23	12:41	14H23M	06:35	**08:29**	**12:08**	01:04	13H54M
2	🌒	05:54	**08:39**	**12:40**	01:34	14H45M	05:47	**08:10**	**12:25**	01:10	14H23M	06:34	**08:30**	**01:06**	01:37	13H56M
3	🌓	05:53	**08:40**	**01:41**	01:57	14H47M	05:46	**08:11**	**01:24**	01:35	14H25M	06:34	**08:30**	**02:02**	02:06	13H56M
4	🌔	05:53	**08:41**	**02:41**	02:17	14H48M	05:46	**08:11**	**02:21**	01:58	14H25M	06:34	**08:31**	**02:55**	02:32	13H57M
5	🌔	05:53	**08:41**	**03:40**	02:37	14H48M	05:46	**08:12**	**03:17**	02:21	14H26M	06:34	**08:31**	**03:48**	02:58	13H57M
6	🌔	05:53	**08:42**	**04:39**	02:58	14H49M	05:46	**08:12**	**04:14**	02:44	14H26M	06:34	**08:32**	**04:42**	03:24	13H58M
7	🌔	05:52	**08:42**	**05:40**	03:20	14H50M	05:46	**08:13**	**05:13**	03:09	14H27M	06:34	**08:32**	**05:36**	03:53	13H58M
8	🌔	05:52	**08:43**	**06:42**	03:46	14H51M	05:46	**08:13**	**06:12**	03:37	14H27M	06:34	**08:33**	**06:33**	04:24	13H59M
9	🌔	05:52	**08:44**	**07:45**	04:16	14H52M	05:45	**08:14**	**07:13**	04:10	14H29M	06:34	**08:33**	**07:31**	05:00	13H59M
10	🌔	05:52	**08:44**	**08:46**	04:54	14H52M	05:45	**08:14**	**08:12**	04:49	14H29M	06:34	**08:34**	**08:28**	05:41	14H0M
11	🌕	05:52	**08:44**	**09:42**	05:39	14H52M	05:45	**08:15**	**09:08**	05:35	14H30M	06:34	**08:34**	**09:24**	06:29	14H0M

June

D. = Day of the Month P. = Phase of the Moon LOD = Length of Day *Bold indicates PM time

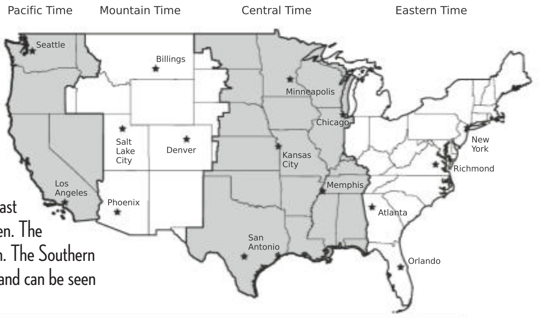
D.	P.	KANSAS CITY					MEMPHIS					SAN ANTONIO				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
12	◑	05:52	**08:45**	**10:32**	06:33	14H53M	05:45	**08:15**	**09:59**	06:29	14H30M	06:34	**08:34**	**10:15**	07:23	14H0M
13	◑	05:52	**08:45**	**11:14**	07:34	14H53M	05:45	**08:16**	**10:43**	07:29	14H31M	06:34	**08:35**	**11:01**	08:22	14H1M
14	◑	05:52	**08:46**	**11:49**	08:40	14H54M	05:45	**08:16**	**11:20**	08:33	14H31M	06:34	**08:35**	**11:42**	09:24	14H1M
15	◑	05:52	**08:46**	–	09:49	14H54M	05:45	**08:16**	**11:53**	09:39	14H31M	06:34	**08:35**	–	10:27	14H1M
16	◑	05:52	**08:46**	12:19	10:58	14H54M	05:46	**08:17**	–	10:45	14H31M	06:34	**08:36**	12:18	11:29	14H2M
17	◑	05:52	**08:47**	12:45	**12:06**	14H55M	05:46	**08:17**	12:22	11:51	14H31M	06:34	**08:36**	12:51	**12:31**	14H2M
18	◑	05:52	**08:47**	01:10	**01:15**	14H55M	05:46	**08:17**	12:49	**12:57**	14H31M	06:34	**08:36**	01:21	**01:32**	14H2M
19	◕	05:52	**08:47**	01:34	**02:26**	14H55M	05:46	**08:17**	01:16	**02:04**	14H31M	06:35	**08:36**	01:52	**02:36**	14H1M
20	◕	05:52	**08:48**	01:59	**03:39**	14H56M	05:46	**08:18**	01:44	**03:14**	14H32M	06:35	**08:37**	02:24	**03:42**	14H2M
21	◕	05:53	**08:48**	02:27	**04:56**	14H55M	05:46	**08:18**	02:16	**04:27**	14H32M	06:35	**08:37**	03:00	**04:51**	14H2M
22	◕	05:53	**08:48**	03:01	**06:14**	14H55M	05:47	**08:18**	02:53	**05:43**	14H31M	06:35	**08:37**	03:41	**06:03**	14H2M
23	◕	05:53	**08:48**	03:43	**07:32**	14H55M	05:47	**08:18**	03:37	**06:58**	14H31M	06:35	**08:37**	04:29	**07:15**	14H2M
24	◕	05:53	**08:48**	04:36	**08:42**	14H55M	05:47	**08:18**	04:32	**08:08**	14H31M	06:36	**08:37**	05:26	**08:24**	14H1M
25	●	05:54	**08:48**	05:39	**09:41**	14H54M	05:47	**08:18**	05:36	**09:08**	14H31M	06:36	**08:37**	06:30	**09:25**	14H1M
26	◐	05:54	**08:48**	06:51	**10:28**	14H54M	05:48	**08:19**	06:46	**09:57**	14H31M	06:36	**08:38**	07:39	**10:16**	14H2M
27	◐	05:55	**08:48**	08:05	**11:04**	14H53M	05:48	**08:19**	07:57	**10:36**	14H31M	06:37	**08:38**	08:47	**10:59**	14H1M
28	◐	05:55	**08:48**	09:17	**11:34**	14H53M	05:48	**08:19**	09:06	**11:08**	14H31M	06:37	**08:38**	09:53	**11:34**	14H1M
29	◐	05:55	**08:48**	10:25	**11:58**	14H53M	05:49	**08:19**	10:11	**11:36**	14H30M	06:37	**08:38**	10:54	–-	14H1M
30	◐	05:56	**08:48**	11:29	–	14H52M	05:49	**08:19**	11:13	–	14H30M	06:38	**08:38**	11:52	12:05	14H0M

D.	P.	BILLINGS					SALT LAKE CITY					DENVER				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	◐	05:27	**08:57**	11:18	01:21	15H30M	05:58	**08:53**	11:44	01:22	14H55M	05:34	08:22	11:17	12:51	14H48M
2	◐	05:27	**08:58**	**12:29**	01:42	15H31M	05:58	**08:54**	**12:50**	01:47	14H56M	05:33	08:23	12:22	01:17	14H50M
3	◐	05:26	**08:59**	**01:36**	01:59	15H33M	05:58	**08:54**	**01:53**	02:08	14H56M	05:33	08:24	01:24	01:39	14H51M
4	◐	05:26	**08:59**	**02:41**	02:14	15H33M	05:57	**08:55**	**02:53**	02:27	14H58M	05:33	08:24	02:24	01:59	14H51M
5	◐	05:25	**09:00**	**03:45**	02:29	15H35M	05:57	**08:56**	**03:54**	02:46	14H59M	05:32	08:25	03:24	02:19	14H53M
6	◐	05:25	**09:01**	**04:50**	02:45	15H36M	05:57	**08:56**	**04:54**	03:06	14H59M	05:32	08:25	04:24	02:39	14H53M
7	◐	05:25	**09:02**	**05:56**	03:02	15H37M	05:56	**08:57**	**05:57**	03:27	15H1M	05:32	08:26	05:25	03:01	14H54M
8	◐	05:24	**09:02**	**07:04**	03:23	15H38M	05:56	**08:58**	**07:00**	03:52	15H2M	05:32	08:27	06:28	03:27	14H55M
9	◐	05:24	**09:03**	**08:11**	03:49	15H39M	05:56	**08:58**	**08:03**	04:22	15H2M	05:32	08:27	07:31	03:57	14H55M
10	◐	05:24	**09:03**	**09:15**	04:22	15H39M	05:56	**08:59**	**09:05**	04:58	15H3M	05:32	08:28	08:32	04:34	14H56M
11	○	05:24	**09:04**	**10:12**	05:05	15H40M	05:56	**08:59**	**10:01**	05:43	15H3M	05:31	08:28	09:28	05:19	14H57M
12	◑	05:24	**09:04**	**11:00**	05:59	15H40M	05:56	**09:00**	**10:50**	06:38	15H4M	05:31	08:29	10:17	06:13	14H58M
13	◑	05:24	**09:05**	**11:37**	07:03	15H41M	05:56	**09:00**	**11:31**	07:40	15H4M	05:31	08:29	10:59	07:15	14H58M
14	◑	05:23	**09:05**	–	08:14	15H42M	05:56	**09:00**	–	08:47	15H4M	05:31	08:29	11:34	08:22	14H58M
15	◑	05:23	**09:06**	12:07	09:28	15H43M	05:56	**09:01**	12:05	09:57	15H5M	05:31	08:30	–	09:31	14H59M
16	◑	05:23	**09:06**	12:31	10:43	15H43M	05:56	**09:01**	12:33	11:07	15H5M	05:31	08:30	12:03	10:40	14H59M
17	◑	05:24	**09:07**	12:51	11:58	15H43M	05:56	**09:01**	12:58	**12:17**	15H5M	05:32	08:30	12:28	11:49	14H58M
18	◑	05:24	**09:07**	01:10	01:13	15H43M	05:56	**09:02**	01:21	**01:28**	15H6M	05:32	08:31	12:52	12:59	14H59M
19	◕	05:24	**09:07**	01:28	02:30	15H43M	05:56	**09:02**	01:43	**02:40**	15H6M	05:32	08:31	01:16	02:10	14H59M

D.	P.	BILLINGS					SALT LAKE CITY					DENVER				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
20	◑	05:24	**09:07**	01:47	**03:50**	15H43M	05:56	**09:02**	02:07	**03:55**	15H6M	05:32	**08:31**	01:40	**03:24**	14H59M
21	◑	05:24	**09:08**	02:09	**05:13**	15H44M	05:57	**09:02**	02:34	**05:13**	15H5M	05:32	**08:31**	02:08	**04:41**	14H59M
22	◑	05:24	**09:08**	02:37	**06:39**	15H44M	05:57	**09:03**	03:07	**06:33**	15H6M	05:32	**08:32**	02:42	**06:00**	15H0M
23	●	05:25	**09:08**	03:13	**08:01**	15H43M	05:57	**09:03**	03:48	**07:51**	15H6M	05:33	**08:32**	03:24	**07:18**	14H59M
24	◐	05:25	**09:08**	04:03	**09:12**	15H43M	05:57	**09:03**	04:41	**09:02**	15H6M	05:33	**08:32**	04:16	**08:28**	14H59M
25	◐	05:25	**09:08**	05:06	**10:09**	15H43M	05:58	**09:03**	05:45	**10:00**	15H5M	05:33	**08:32**	05:20	**09:27**	14H59M
26	◐	05:26	**09:08**	06:21	**10:50**	15H42M	05:58	**09:03**	06:57	**10:45**	15H5M	05:34	**08:32**	06:32	**10:13**	14H58M
27	◐	05:26	**09:08**	07:40	**11:20**	15H42M	05:58	**09:03**	08:12	**11:20**	15H5M	05:34	**08:32**	07:46	**10:49**	14H58M
28	◐	05:27	**09:08**	08:58	**11:44**	15H41M	05:59	**09:03**	09:25	**11:47**	15H4M	05:35	**08:32**	08:59	**11:17**	14H57M
29	◐	05:27	**09:08**	10:12	–	15H41M	05:59	**09:03**	10:34	–	15H4M	05:35	**08:32**	10:07	**11:41**	14H57M
30	◐	05:28	**09:08**	11:21	12:03	15H40M	06:00	**09:03**	11:40	12:10	15H3M	05:35	**08:32**	11:12	–	14H57M

D.	P.	PHOENIX					SEATTLE					LOS ANGELES				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	◐	05:19	**07:33**	10:58	12:07	14H14M	05:15	**09:00**	11:12	01:22	15H45M	05:43	**08:00**	11:23	12:34	14H17M
2	◐	05:19	**07:34**	11:59	12:37	14H15M	05:15	**09:00**	**12:24**	01:41	15H45M	05:42	**08:00**	**12:24**	01:03	14H18M
3	◐	05:19	**07:34**	**12:56**	01:03	14H15M	05:14	**09:01**	**01:33**	01:56	15H47M	05:42	**08:01**	**01:22**	01:29	14H19M
4	◐	05:19	**07:35**	**01:52**	01:28	14H16M	05:14	**09:02**	**02:39**	02:10	15H48M	05:42	**08:01**	**02:18**	01:53	14H19M
5	◐	05:18	**07:36**	**02:48**	01:51	14H18M	05:13	**09:03**	**03:45**	02:24	15H50M	05:42	**08:02**	**03:14**	02:16	14H20M
6	◐	05:18	**07:36**	**03:43**	02:16	14H18M	05:13	**09:04**	**04:52**	02:38	15H51M	05:41	**08:02**	**04:10**	02:40	14H21M
7	◐	05:18	**07:37**	**04:41**	02:42	14H19M	05:13	**09:04**	**06:00**	02:54	15H51M	05:41	**08:03**	**05:08**	03:06	14H22M
8	◐	05:18	**07:37**	**05:39**	03:11	14H19M	05:12	**09:05**	**07:09**	03:13	15H53M	05:41	**08:03**	**06:07**	03:35	14H22M
9	◐	05:18	**07:37**	**06:39**	03:45	14H19M	05:12	**09:06**	**08:18**	03:37	15H54M	05:41	**08:04**	**07:07**	04:09	14H23M
10	◐	05:18	**07:38**	**07:38**	04:25	14H20M	05:12	**09:06**	**09:23**	04:09	15H54M	05:41	**08:04**	**08:06**	04:49	14H23M
11	○	05:18	**07:38**	**08:34**	05:12	14H20M	05:11	**09:07**	**10:20**	04:51	15H56M	05:41	**08:05**	**09:01**	05:36	14H24M
12	◑	05:18	**07:39**	**09:24**	06:07	14H21M	05:11	**09:08**	**11:06**	05:46	15H57M	05:41	**08:05**	**09:51**	06:30	14H24M
13	◑	05:18	**07:39**	**10:08**	07:07	14H21M	05:11	**09:08**	**11:42**	06:51	15H57M	05:41	**08:05**	**10:35**	07:31	14H24M
14	◑	05:18	**07:39**	**10:47**	08:10	14H21M	05:11	**09:09**	–	08:04	15H58M	05:41	**08:06**	**11:13**	08:34	14H25M
15	◑	05:18	**07:40**	**11:20**	09:15	14H22M	05:11	**09:09**	12:10	09:20	15H58M	05:41	**08:06**	**11:46**	09:40	14H25M
16	◑	05:18	**07:40**	**11:50**	10:20	14H22M	05:11	**09:09**	12:32	10:37	15H58M	05:41	**08:06**	–	10:45	14H25M
17	◑	05:18	**07:40**	–	11:24	14H22M	05:11	**09:10**	12:50	11:54	15H59M	05:41	**08:07**	12:16	11:50	14H26M
18	◑	05:18	**07:41**	12:18	**12:29**	14H23M	05:11	**09:10**	01:07	**01:11**	15H59M	05:42	**08:07**	12:44	**12:55**	14H25M
19	◑	05:19	**07:41**	12:47	**01:35**	14H22M	05:11	**09:10**	01:23	**02:30**	15H59M	05:42	**08:07**	01:11	**02:01**	14H25M
20	◑	05:19	**07:41**	01:16	**02:44**	14H22M	05:11	**09:11**	01:40	**03:53**	16H0M	05:42	**08:07**	01:41	**03:11**	14H25M
21	◑	05:19	**07:41**	01:49	**03:56**	14H22M	05:12	**09:11**	02:01	**05:18**	15H59M	05:42	**08:08**	02:13	**04:23**	14H26M
22	◑	05:19	**07:42**	02:27	**05:11**	14H23M	05:12	**09:11**	02:27	**06:46**	15H59M	05:42	**08:08**	02:51	**05:38**	14H26M
23	◑	05:20	**07:42**	03:14	**06:25**	14H22M	05:12	**09:11**	03:02	**08:09**	15H59M	05:43	**08:08**	03:37	**06:53**	14H25M
24	◑	05:20	**07:42**	04:09	**07:34**	14H22M	05:13	**09:11**	03:50	**09:21**	15H58M	05:43	**08:08**	04:33	**08:02**	14H25M
25	●	05:20	**07:42**	05:14	**08:34**	14H22M	05:13	**09:11**	04:54	**10:15**	15H58M	05:43	**08:08**	05:38	**09:01**	14H25M
26	◐	05:20	**07:42**	06:24	**09:23**	14H22M	05:13	**09:11**	06:10	**10:55**	15H58M	05:44	**08:08**	06:48	**09:50**	14H24M
27	◐	05:21	**07:42**	07:34	**10:03**	14H21M	05:14	**09:11**	07:31	**11:23**	15H57M	05:44	**08:08**	07:58	**10:29**	14H24M
28	◐	05:21	**07:42**	08:42	**10:36**	14H21M	05:14	**09:11**	08:50	**11:44**	15H57M	05:44	**08:08**	09:06	**11:02**	14H24M
29	◐	05:22	**07:42**	09:46	**11:04**	14H20M	05:15	**09:11**	10:06	–	15H56M	05:45	**08:08**	10:10	**11:29**	14H23M
30	◐	05:22	**07:42**	10:46	**11:29**	14H20M	05:15	**09:11**	11:18	12:01	15H56M	05:45	**08:08**	11:11	**11:55**	14H23M

July



Worth watching: The 16th will host a conjunction of the moon and Saturn, which also will include close approaches from Pluto and Neptune, although these last two planets require binoculars or a telescope to be seen. The moon also will make an approach on Mars on the 28th. The Southern Delta Aquarids meteor shower will peak on the 30th and can be seen radiating from the constellation Aquarius.

D. = Day of the Month P. = Phase of the Moon LOD = Length of Day *Bold indicates PM time

D.	P.	NEW YORK CITY					RICHMOND					ATLANTA				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	🌓	05:29	**08:31**	**12:04**	–	15H2M	05:52	**08:35**	**12:19**	12:10	14H43M	06:31	**08:52**	**12:48**	12:37	14H21M
2	🌓	05:29	**08:31**	**01:05**	12:17	15H2M	05:53	**08:35**	**01:18**	12:31	14H42M	06:31	**08:52**	**01:44**	01:01	14H21M
3	🌔	05:30	**08:31**	**02:06**	12:36	15H1M	05:53	**08:35**	**02:16**	12:53	14H42M	06:32	**08:52**	**02:40**	01:25	14H20M
4	🌔	05:30	**08:30**	**03:08**	12:57	15H0M	05:54	**08:34**	**03:15**	01:16	14H40M	06:32	**08:52**	**03:37**	01:50	14H20M
5	🌔	05:31	**08:30**	**04:11**	01:20	14H59M	05:54	**08:34**	**04:16**	01:41	14H40M	06:33	**08:52**	**04:36**	02:17	14H19M
6	🌔	05:32	**08:30**	**05:14**	01:47	14H58M	05:55	**08:34**	**05:18**	02:10	14H39M	06:33	**08:52**	**05:35**	02:49	14H19M
7	🌔	05:32	**08:30**	**06:17**	02:20	14H58M	05:56	**08:34**	**06:19**	02:46	14H38M	06:34	**08:51**	**06:35**	03:26	14H17M
8	🌔	05:33	**08:29**	**07:16**	03:01	14H56M	05:56	**08:33**	**07:17**	03:28	14H37M	06:34	**08:51**	**07:32**	04:11	14H17M
9	🌔	05:34	**08:29**	**08:09**	03:52	14H55M	05:57	**08:33**	**08:10**	04:19	14H36M	06:35	**08:51**	**08:25**	05:02	14H16M
10	🌕	05:34	**08:28**	**08:54**	04:51	14H54M	05:57	**08:33**	**08:56**	05:18	14H36M	06:35	**08:51**	**09:13**	06:01	14H16M
11	🌖	05:35	**08:28**	**09:31**	05:58	14H53M	05:58	**08:32**	**09:35**	06:23	14H34M	06:36	**08:50**	**09:54**	07:04	14H14M
12	🌖	05:36	**08:27**	**10:02**	07:08	14H51M	05:59	**08:32**	**10:08**	07:31	14H33M	06:36	**08:50**	**10:29**	08:10	14H14M
13	🌖	05:36	**08:27**	**10:28**	08:19	14H51M	05:59	**08:31**	**10:37**	08:40	14H32M	06:37	**08:49**	**11:00**	09:16	14H12M
14	🌖	05:37	**08:26**	**10:52**	09:30	14H49M	06:00	**08:31**	**11:03**	09:48	14H31M	06:38	**08:49**	**11:29**	10:22	14H11M
15	🌖	05:38	**08:26**	**11:14**	10:41	14H48M	06:01	**08:30**	**11:28**	10:56	14H29M	06:38	**08:49**	**11:57**	11:27	14H11M
16	🌖	05:39	**08:25**	**11:37**	11:52	14H46M	06:01	**08:30**	**11:54**	**12:04**	14H29M	06:39	**08:48**	–	**12:32**	14H9M
17	🌖	05:40	**08:24**	–	**01:04**	14H44M	06:02	**08:29**	–	**01:14**	14H27M	06:40	**08:48**	12:25	**01:39**	14H8M
18	🌗	05:40	**08:24**	12:02	**02:19**	14H44M	06:03	**08:29**	12:21	**02:27**	14H26M	06:40	**08:47**	12:56	**02:48**	14H7M
19	🌘	05:41	**08:23**	12:31	**03:37**	14H42M	06:04	**08:28**	12:53	**03:41**	14H24M	06:41	**08:47**	01:30	**04:00**	14H6M
20	🌘	05:42	**08:22**	01:07	**04:54**	14H40M	06:04	**08:27**	01:32	**04:56**	14H23M	06:42	**08:46**	02:12	**05:13**	14H4M
21	🌘	05:43	**08:22**	01:53	**06:07**	14H39M	06:05	**08:27**	02:19	**06:08**	14H22M	06:42	**08:46**	03:01	**06:23**	14H4M
22	🌘	05:44	**08:21**	02:50	**07:10**	14H37M	06:06	**08:26**	03:17	**07:11**	14H20M	06:43	**08:45**	04:00	**07:26**	14H2M
23	🌘	05:45	**08:20**	03:57	**08:01**	14H35M	06:07	**08:25**	04:24	**08:03**	14H18M	06:44	**08:44**	05:07	**08:20**	14H0M
24	🌑	05:46	**08:19**	05:10	**08:41**	14H33M	06:08	**08:25**	05:36	**08:45**	14H17M	06:44	**08:44**	06:17	**09:04**	14H0M
25	🌒	05:47	**08:18**	06:25	**09:12**	14H31M	06:08	**08:24**	06:48	**09:19**	14H16M	06:45	**08:43**	07:26	**09:40**	13H58M
26	🌒	05:47	**08:17**	07:37	**09:38**	14H30M	06:09	**08:23**	07:57	**09:47**	14H14M	06:46	**08:42**	08:33	**10:10**	13H56M
27	🌒	05:48	**08:16**	08:45	**09:59**	14H28M	06:10	**08:22**	09:03	**10:11**	14H12M	06:46	**08:42**	09:36	**10:37**	13H56M
28	🌒	05:49	**08:15**	09:50	**10:20**	14H26M	06:11	**08:21**	10:05	**10:33**	14H10M	06:47	**08:41**	10:35	**11:02**	13H54M
29	🌒	05:50	**08:14**	10:52	**10:39**	14H24M	06:12	**08:20**	11:05	**10:55**	14H8M	06:48	**08:40**	11:33	**11:26**	13H52M
30	🌒	05:51	**08:13**	11:54	**10:59**	14H22M	06:12	**08:19**	**12:05**	**11:17**	14H7M	06:48	**08:39**	**12:30**	**11:51**	13H51M
31	🌒	05:52	**08:12**	**12:56**	**11:21**	14H20M	06:13	**08:18**	**01:04**	**11:42**	14H5M	06:49	**08:38**	**01:27**	–	13H49M

D.	P.	ORLANDO					MINNEAPOLIS					CHICAGO				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	◐	06:32	**08:27**	**12:36**	12:23	13H55M	05:31	**09:03**	**12:25**	12:17	15H32M	05:19	**08:29**	**12:01**	–	15H10M
2	◐	06:32	**08:27**	**01:29**	12:50	13H55M	05:31	**09:03**	**01:29**	12:33	15H32M	05:20	**08:29**	**01:03**	12:11	15H9M
3	◐	06:32	**08:27**	**02:22**	01:17	13H55M	05:32	**09:03**	**02:34**	12:49	15H31M	05:20	**08:29**	**02:05**	12:30	15H9M
4	◐	06:33	**08:27**	**03:16**	01:45	13H54M	05:32	**09:02**	**03:39**	01:07	15H30M	05:21	**08:29**	**03:07**	12:50	15H8M
5	◐	06:33	**08:27**	**04:11**	02:15	13H54M	05:33	**09:02**	**04:45**	01:27	15H29M	05:22	**08:28**	**04:11**	01:12	15H6M
6	◐	06:34	**08:27**	**05:08**	02:49	13H53M	05:34	**09:02**	**05:52**	01:51	15H28M	05:22	**08:28**	**05:16**	01:39	15H6M
7	◐	06:34	**08:27**	**06:06**	03:29	13H53M	05:35	**09:01**	**06:57**	02:21	15H26M	05:23	**08:28**	**06:19**	02:11	15H5M
8	◐	06:35	**08:27**	**07:03**	04:15	13H52M	05:35	**09:01**	**07:57**	03:01	15H26M	05:24	**08:27**	**07:18**	02:52	15H3M
9	◐	06:35	**08:26**	**07:56**	05:07	13H51M	05:36	**09:00**	**08:49**	03:51	15H24M	05:24	**08:27**	**08:10**	03:43	15H3M
10	○	06:36	**08:26**	**08:45**	06:05	13H50M	05:37	**09:00**	**09:31**	04:52	15H23M	05:25	**08:27**	**08:54**	04:43	15H2M
11	◑	06:36	**08:26**	**09:29**	07:06	13H50M	05:38	**08:59**	**10:04**	06:01	15H21M	05:26	**08:26**	**09:31**	05:51	15H0M
12	◑	06:37	**08:26**	**10:07**	08:09	13H49M	05:39	**08:59**	**10:31**	07:15	15H20M	05:27	**08:25**	**10:00**	07:02	14H58M
13	◑	06:37	**08:25**	**10:42**	09:12	13H48M	05:39	**08:58**	**10:54**	08:31	15H19M	05:27	**08:25**	**10:25**	08:14	14H58M
14	◑	06:38	**08:25**	**11:14**	10:14	13H47M	05:40	**08:57**	**11:13**	09:45	15H17M	05:28	**08:24**	**10:48**	09:26	14H56M
15	◑	06:38	**08:25**	**11:45**	11:15	13H47M	05:41	**08:57**	**11:32**	11:00	15H16M	05:29	**08:24**	**11:09**	10:37	14H55M
16	◑	06:39	**08:24**	–	**12:17**	13H45M	05:42	**08:56**	**11:51**	**12:15**	15H14M	05:30	**08:23**	**11:31**	11:49	14H53M
17	◑	06:39	**08:24**	12:16	**01:21**	13H45M	05:43	**08:55**	–	**01:32**	15H12M	05:31	**08:22**	**11:55**	**01:03**	14H51M
18	◑	06:40	**08:24**	12:50	**02:26**	13H44M	05:44	**08:54**	12:12	**02:51**	15H10M	05:31	**08:22**	–	**02:19**	14H51M
19	◑	06:40	**08:23**	01:29	**03:35**	13H43M	05:45	**08:53**	12:38	**04:13**	15H8M	05:32	**08:21**	12:24	**03:38**	14H49M
20	◑	06:41	**08:23**	02:13	**04:45**	13H42M	05:46	**08:52**	01:10	**05:34**	15H6M	05:33	**08:20**	12:59	**04:56**	14H47M
21	◑	06:41	**08:22**	03:05	**05:54**	13H41M	05:47	**08:51**	01:53	**06:48**	15H4M	05:34	**08:19**	01:44	**06:09**	14H45M
22	◑	06:42	**08:22**	04:05	**06:57**	13H40M	05:48	**08:51**	02:49	**07:50**	15H3M	05:35	**08:18**	02:41	**07:12**	14H43M
23	◑	06:42	**08:21**	05:10	**07:52**	13H39M	05:49	**08:50**	03:58	**08:38**	15H1M	05:36	**08:18**	03:49	**08:02**	14H42M
24	●	06:43	**08:21**	06:18	**08:39**	13H38M	05:50	**08:48**	05:14	**09:14**	14H58M	05:37	**08:17**	05:03	**08:40**	14H40M
25	◐	06:43	**08:20**	07:25	**09:18**	13H37M	05:51	**08:47**	06:33	**09:41**	14H56M	05:38	**08:16**	06:19	**09:10**	14H38M
26	◐	06:44	**08:20**	08:28	**09:52**	13H36M	05:52	**08:46**	07:48	**10:03**	14H54M	05:39	**08:15**	07:31	**09:35**	14H36M
27	◐	06:45	**08:19**	09:28	**10:22**	13H34M	05:53	**08:45**	09:00	**10:21**	14H52M	05:40	**08:14**	08:40	**09:56**	14H34M
28	◐	06:45	**08:19**	10:24	**10:50**	13H34M	05:55	**08:44**	10:09	**10:37**	14H49M	05:41	**08:13**	09:46	**10:15**	14H32M
29	◐	06:46	**08:18**	11:19	**11:17**	13H32M	05:56	**08:43**	11:15	**10:54**	14H47M	05:42	**08:12**	10:50	**10:33**	14H30M
30	◐	06:46	**08:17**	**12:12**	**11:45**	13H31M	05:57	**08:42**	**12:20**	**11:10**	14H45M	05:43	**08:11**	11:52	**10:53**	14H28M
31	◐	06:47	**08:17**	**01:06**	–	13H30M	05:58	**08:40**	**01:25**	**11:29**	14H42M	05:44	**08:09**	**12:55**	**11:14**	14H25M

D.	P.	KANSAS CITY					MEMPHIS					SAN ANTONIO				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	◐	05:56	**08:48**	**12:30**	12:20	14H52M	05:50	**08:19**	**12:11**	12:00	14H29M	06:38	**08:38**	**12:47**	12:33	14H0M
2	◐	05:57	**08:48**	**01:30**	12:41	14H51M	05:50	**08:18**	**01:09**	12:23	14H28M	06:39	**08:38**	**01:40**	12:59	13H59M
3	◐	05:57	**08:48**	**02:30**	01:01	14H51M	05:51	**08:18**	**02:06**	12:46	14H27M	06:39	**08:38**	**02:34**	01:26	13H59M
4	◐	05:58	**08:48**	**03:30**	01:23	14H50M	05:51	**08:18**	**03:03**	01:11	14H27M	06:39	**08:38**	**03:28**	01:53	13H59M
5	◐	05:58	**08:47**	**04:32**	01:47	14H49M	05:52	**08:18**	**04:02**	01:38	14H26M	06:40	**08:38**	**04:24**	02:24	13H58M
6	◐	05:59	**08:47**	**05:34**	02:16	14H48M	05:52	**08:18**	**05:03**	02:09	14H26M	06:40	**08:37**	**05:22**	02:58	13H57M
7	◐	06:00	**08:47**	**06:36**	02:51	14H47M	05:53	**08:18**	**06:03**	02:45	14H25M	06:41	**08:37**	**06:20**	03:37	13H56M
8	◐	06:00	**08:47**	**07:35**	03:33	14H47M	05:53	**08:17**	**07:01**	03:29	14H24M	06:41	**08:37**	**07:16**	04:23	13H56M
9	◐	06:01	**08:46**	**08:27**	04:24	14H45M	05:54	**08:17**	**07:54**	04:21	14H23M	06:42	**08:37**	**08:10**	05:15	13H55M
10	○	06:02	**08:46**	**09:12**	05:24	14H44M	05:54	**08:17**	**08:40**	05:20	14H23M	06:42	**08:37**	**08:58**	06:13	13H55M
11	◑	06:02	**08:45**	**09:50**	06:30	14H43M	05:55	**08:16**	**09:21**	06:24	14H21M	06:43	**08:36**	**09:41**	07:15	13H53M

July

D. = Day of the Month P. = Phase of the Moon LOD = Length of Day *Bold indicates PM time

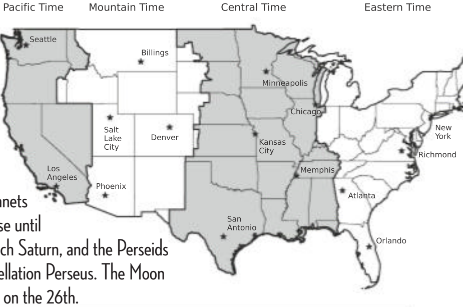
D.	P.	KANSAS CITY					MEMPHIS					SAN ANTONIO				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
12	◑	06:03	**08:45**	**10:22**	07:39	14H42M	05:56	**08:16**	**09:55**	07:30	14H20M	06:43	**08:36**	**10:19**	08:19	13H53M
13	◑	06:04	**08:44**	**10:49**	08:49	14H40M	05:56	**08:16**	**10:25**	08:37	14H20M	06:44	**08:36**	**10:53**	09:22	13H52M
14	◑	06:04	**08:44**	**11:14**	09:58	14H40M	05:57	**08:15**	**10:53**	09:44	14H18M	06:44	**08:36**	**11:24**	10:25	13H52M
15	◑	06:05	**08:43**	**11:38**	11:08	14H38M	05:57	**08:15**	**11:20**	10:50	14H18M	06:45	**08:35**	**11:55**	11:27	13H50M
16	◑	06:06	**08:43**	–	**12:17**	14H37M	05:58	**08:14**	**11:47**	11:56	14H16M	06:45	**08:35**	–	**12:29**	13H50M
17	◑	06:07	**08:42**	12:02	**01:28**	14H35M	05:59	**08:14**	–	**01:04**	14H15M	06:46	**08:34**	12:26	**01:33**	13H48M
18	◑	06:07	**08:41**	12:29	**02:42**	14H34M	05:59	**08:13**	12:17	**02:15**	14H14M	06:46	**08:34**	12:59	**02:40**	13H48M
19	◑	06:08	**08:41**	01:00	**03:58**	14H33M	06:00	**08:13**	12:50	**03:28**	14H13M	06:47	**08:34**	01:37	**03:49**	13H47M
20	◑	06:09	**08:40**	01:37	**05:14**	14H31M	06:01	**08:12**	01:31	**04:41**	14H11M	06:47	**08:33**	02:21	**04:59**	13H46M
21	◑	06:10	**08:39**	02:24	**06:26**	14H29M	06:02	**08:11**	02:20	**05:52**	14H9M	06:48	**08:33**	03:13	**06:08**	13H45M
22	◑	06:11	**08:39**	03:22	**07:29**	14H28M	06:02	**08:11**	03:19	**06:55**	14H9M	06:49	**08:32**	04:13	**07:11**	13H43M
23	◑	06:11	**08:38**	04:30	**08:20**	14H27M	06:03	**08:10**	04:26	**07:48**	14H7M	06:49	**08:32**	05:19	**08:06**	13H43M
24	●	06:12	**08:37**	05:43	**09:00**	14H25M	06:04	**08:09**	05:36	**08:31**	14H5M	06:50	**08:31**	06:28	**08:51**	13H41M
25	◐	06:13	**08:36**	06:56	**09:32**	14H23M	06:04	**08:09**	06:47	**09:06**	14H5M	06:50	**08:31**	07:35	**09:30**	13H41M
26	◐	06:14	**08:35**	08:06	**09:59**	14H21M	06:05	**08:08**	07:54	**09:35**	14H3M	06:51	**08:30**	08:38	**10:03**	13H39M
27	◐	06:15	**08:34**	09:13	**10:22**	14H19M	06:06	**08:07**	08:58	**10:01**	14H1M	06:51	**08:29**	09:38	**10:32**	13H38M
28	◐	06:16	**08:33**	10:16	**10:43**	14H17M	06:07	**08:06**	09:58	**10:25**	13H59M	06:52	**08:29**	10:35	**10:59**	13H37M
29	◐	06:17	**08:33**	11:17	**11:04**	14H16M	06:07	**08:06**	10:57	**10:48**	13H59M	06:53	**08:28**	11:30	**11:26**	13H35M
30	◐	06:17	**08:32**	**12:18**	**11:25**	14H15M	06:08	**08:05**	11:55	**11:12**	13H57M	06:53	**08:27**	**12:24**	**11:53**	13H34M
31	◐	06:18	**08:31**	**01:18**	**11:48**	14H13M	06:09	**08:04**	**12:53**	**11:38**	13H55M	06:54	**08:27**	**01:19**	--	13H33M

D.	P.	BILLINGS					SALT LAKE CITY					DENVER				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	◐	05:28	**09:07**	**12:28**	12:19	15H39M	06:00	**09:03**	**12:42**	12:31	15H3M	05:36	**08:32**	**12:13**	12:02	14H56M
2	◐	05:29	**09:07**	**01:34**	12:34	15H38M	06:01	**09:03**	**01:43**	12:50	15H2M	05:36	**08:32**	**01:14**	12:22	14H56M
3	◐	05:30	**09:07**	**02:39**	12:50	15H37M	06:01	**09:02**	**02:44**	01:10	15H1M	05:37	**08:31**	**02:14**	12:43	14H54M
4	◐	05:30	**09:07**	**03:45**	01:07	15H37M	06:02	**09:02**	**03:46**	01:30	15H0M	05:38	**08:31**	**03:15**	01:04	14H53M
5	◐	05:31	**09:06**	**04:52**	01:26	15H35M	06:02	**09:02**	**04:49**	01:54	15H0M	05:38	**08:31**	**04:17**	01:28	14H53M
6	◐	05:32	**09:06**	**05:59**	01:50	15H34M	06:03	**09:02**	**05:53**	02:21	14H59M	05:39	**08:31**	**05:20**	01:56	14H52M
7	◐	05:32	**09:05**	**07:05**	02:20	15H33M	06:04	**09:01**	**06:55**	02:55	14H57M	05:39	**08:30**	**06:22**	02:31	14H51M
8	◐	05:33	**09:05**	**08:05**	02:59	15H32M	06:04	**09:01**	**07:54**	03:38	14H57M	05:40	**08:30**	**07:21**	03:13	14H50M
9	◐	05:34	**09:04**	**08:56**	03:50	15H30M	06:05	**09:00**	**08:46**	04:29	14H55M	05:41	**08:30**	**08:13**	04:05	14H49M
10	○	05:35	**09:04**	**09:37**	04:52	15H29M	06:06	**09:00**	**09:30**	05:29	14H54M	05:41	**08:29**	**08:58**	05:05	14H48M
11	◑	05:36	**09:03**	**10:10**	06:02	15H27M	06:06	**09:00**	**10:06**	06:37	14H54M	05:42	**08:29**	**09:35**	06:11	14H47M
12	◑	05:36	**09:03**	**10:35**	07:17	15H27M	06:07	**08:59**	**10:36**	07:47	14H52M	05:43	**08:28**	**10:06**	07:21	14H45M
13	◑	05:37	**09:02**	**10:57**	08:33	15H25M	06:08	**08:58**	**11:02**	08:58	14H50M	05:43	**08:28**	**10:33**	08:31	14H45M
14	◑	05:38	**09:01**	**11:16**	09:48	15H23M	06:09	**08:58**	**11:26**	10:09	14H49M	05:44	**08:27**	**10:57**	09:41	14H43M
15	◑	05:39	**09:00**	**11:34**	11:04	15H21M	06:09	**08:57**	**11:48**	11:20	14H48M	05:45	**08:27**	**11:20**	10:51	14H42M
16	◑	05:40	**09:00**	**11:52**	**12:20**	15H20M	06:10	**08:57**	–	**12:31**	14H47M	05:46	**08:26**	**11:44**	**12:01**	14H40M
17	◑	05:41	**08:59**	–	**01:37**	15H18M	06:11	**08:56**	12:11	**01:44**	14H45M	05:46	**08:25**	–	**01:13**	14H39M
18	◑	05:42	**08:58**	12:13	**02:58**	15H16M	06:12	**08:55**	12:36	**02:59**	14H43M	05:47	**08:25**	12:10	**02:27**	14H38M
19	◑	05:43	**08:57**	12:37	**04:21**	15H14M	06:13	**08:55**	01:06	**04:16**	14H42M	05:48	**08:24**	12:41	**03:44**	14H36M
20	◑	05:44	**08:56**	01:09	**05:42**	15H12M	06:14	**08:54**	01:43	**05:34**	14H40M	05:49	**08:23**	01:18	**05:01**	14H34M

D.	P.	BILLINGS					SALT LAKE CITY					DENVER				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
21	◑	05:45	**08:55**	01:52	**06:56**	15H10M	06:14	**08:53**	02:29	**06:46**	14H39M	05:50	**08:23**	02:05	**06:12**	14H33M
22	◑	05:46	**08:54**	02:48	**07:58**	15H8M	06:15	**08:52**	03:27	**07:48**	14H37M	05:51	**08:22**	03:03	**07:14**	14H31M
23	◑	05:47	**08:53**	03:58	**08:44**	15H6M	06:16	**08:51**	04:36	**08:37**	14H35M	05:51	**08:21**	04:11	**08:05**	14H30M
24	●	05:48	**08:52**	05:15	**09:19**	15H4M	06:17	**08:51**	05:50	**09:16**	14H34M	05:52	**08:20**	05:24	**08:45**	14H28M
25	◐	05:50	**08:51**	06:34	**09:45**	15H1M	06:18	**08:50**	07:04	**09:47**	14H32M	05:53	**08:19**	06:38	**09:16**	14H26M
26	◐	05:51	**08:50**	07:50	**10:06**	14H59M	06:19	**08:49**	08:15	**10:12**	14H30M	05:54	**08:18**	07:48	**09:42**	14H24M
27	◐	05:52	**08:49**	09:03	**10:23**	14H57M	06:20	**08:48**	09:23	**10:33**	14H28M	05:55	**08:18**	08:55	**10:05**	14H23M
28	◐	05:53	**08:47**	10:12	**10:39**	14H54M	06:21	**08:47**	10:28	**10:53**	14H26M	05:56	**08:17**	09:59	**10:25**	14H21M
29	◐	05:54	**08:46**	11:19	**10:54**	14H52M	06:22	**08:46**	11:30	**11:13**	14H24M	05:57	**08:16**	11:01	**10:45**	14H19M
30	◐	05:55	**08:45**	**12:25**	**11:11**	14H50M	06:23	**08:45**	**12:32**	**11:33**	14H22M	05:58	**08:15**	**12:02**	**11:06**	14H17M
31	◐	05:56	**08:44**	**01:31**	**11:29**	14H48M	06:24	**08:44**	**01:34**	**11:55**	14H20M	05:58	**08:14**	**01:03**	**11:29**	14H16M

D.	P.	PHOENIX					SEATTLE					LOS ANGELES				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	◐	05:22	**07:42**	11:43	**11:53**	14H20M	05:16	**09:10**	**12:26**	12:16	15H54M	05:45	**08:08**	**12:09**	–	14H23M
2	◐	05:23	**07:42**	**12:39**	–	14H19M	05:17	**09:10**	**01:33**	12:29	15H53M	05:46	**08:08**	**01:05**	12:18	14H22M
3	🌖	05:23	**07:42**	**01:35**	12:18	14H19M	05:17	**09:10**	**02:40**	12:43	15H53M	05:46	**08:08**	**02:01**	12:42	14H22M
4	🌖	05:24	**07:42**	**02:32**	12:43	14H18M	05:18	**09:09**	**03:48**	12:58	15H51M	05:47	**08:08**	**02:59**	01:07	14H21M
5	🌖	05:24	**07:42**	**03:30**	01:11	14H18M	05:19	**09:09**	**04:57**	01:16	15H50M	05:47	**08:08**	**03:57**	01:35	14H21M
6	🌖	05:25	**07:41**	**04:29**	01:43	14H16M	05:19	**09:08**	**06:06**	01:39	15H49M	05:48	**08:08**	**04:57**	02:07	14H20M
7	🌖	05:25	**07:41**	**05:29**	02:21	14H16M	05:20	**09:08**	**07:13**	02:08	15H48M	05:48	**08:07**	**05:56**	02:45	14H19M
8	🌖	05:26	**07:41**	**06:26**	03:06	14H15M	05:21	**09:07**	**08:13**	02:46	15H46M	05:49	**08:07**	**06:54**	03:29	14H18M
9	🌖	05:26	**07:41**	**07:19**	03:58	14H15M	05:22	**09:07**	**09:03**	03:37	15H45M	05:49	**08:07**	**07:46**	04:22	14H18M
10	○	05:27	**07:40**	**08:06**	04:57	14H13M	05:23	**09:06**	**09:43**	04:39	15H43M	05:50	**08:07**	**08:33**	05:21	14H17M
11	🌔	05:27	**07:40**	**08:46**	06:01	14H13M	05:24	**09:06**	**10:13**	05:51	15H42M	05:51	**08:06**	**09:13**	06:25	14H15M
12	🌔	05:28	**07:40**	**09:22**	07:07	14H12M	05:25	**09:05**	**10:37**	07:08	15H40M	05:51	**08:06**	**09:48**	07:31	14H15M
13	🌔	05:29	**07:39**	**09:53**	08:12	14H10M	05:26	**09:04**	**10:56**	08:26	15H38M	05:52	**08:06**	**10:19**	08:37	14H14M
14	🌔	05:29	**07:39**	**10:22**	09:18	14H10M	05:27	**09:03**	**11:13**	09:44	15H36M	05:52	**08:05**	**10:47**	09:43	14H13M
15	🌔	05:30	**07:39**	**10:50**	10:22	14H9M	05:28	**09:03**	**11:29**	11:01	15H35M	05:53	**08:05**	**11:15**	10:48	14H12M
16	🌔	05:30	**07:38**	**11:18**	11:28	14H8M	05:29	**09:02**	**11:46**	**12:19**	15H33M	05:54	**08:04**	**11:43**	11:54	14H10M
17	🌔	05:31	**07:38**	**11:49**	**12:34**	14H7M	05:30	**09:01**	–	**01:39**	15H31M	05:54	**08:04**	–	**01:01**	14H10M
18	◑	05:32	**07:37**	–	**01:44**	14H5M	05:31	**09:00**	12:05	**03:02**	15H29M	05:55	**08:03**	12:14	**02:11**	14H8M
19	◑	05:32	**07:37**	12:25	**02:56**	14H5M	05:32	**08:59**	12:28	**04:27**	15H27M	05:56	**08:03**	12:49	**03:23**	14H7M
20	◑	05:33	**07:36**	01:07	**04:08**	14H3M	05:33	**08:58**	12:58	**05:50**	15H25M	05:56	**08:02**	01:30	**04:36**	14H6M
21	◑	05:34	**07:36**	01:57	**05:18**	14H2M	05:34	**08:57**	01:40	**07:05**	15H23M	05:57	**08:02**	02:21	**05:46**	14H5M
22	◑	05:34	**07:35**	02:57	**06:20**	14H1M	05:35	**08:56**	02:36	**08:05**	15H21M	05:58	**08:01**	03:20	**06:48**	14H3M
23	◑	05:35	**07:34**	04:04	**07:13**	13H59M	05:36	**08:55**	03:46	**08:50**	15H19M	05:58	**08:00**	04:28	**07:41**	14H2M
24	●	05:36	**07:34**	05:14	**07:57**	13H58M	05:38	**08:53**	05:05	**09:22**	15H15M	05:59	**08:00**	05:38	**08:24**	14H1M
25	◐	05:36	**07:33**	06:23	**08:33**	13H57M	05:39	**08:52**	06:26	**09:46**	15H13M	06:00	**07:59**	06:47	**08:59**	13H59M
26	◐	05:37	**07:32**	07:29	**09:03**	13H55M	05:40	**08:51**	07:44	**10:05**	15H11M	06:00	**07:58**	07:54	**09:29**	13H58M
27	◐	05:38	**07:32**	08:31	**09:30**	13H54M	05:41	**08:50**	08:59	**10:20**	15H9M	06:01	**07:57**	08:56	**09:55**	13H56M
28	◐	05:38	**07:31**	09:31	**09:54**	13H53M	05:42	**08:48**	10:09	**10:35**	15H6M	06:02	**07:57**	09:56	**10:20**	13H55M
29	◐	05:39	**07:30**	10:28	**10:19**	13H51M	05:44	**08:47**	11:18	**10:48**	15H3M	06:03	**07:56**	10:54	**10:43**	13H53M
30	◐	05:40	**07:29**	11:24	**10:44**	13H49M	05:45	**08:46**	**12:25**	**11:03**	15H1M	06:03	**07:55**	11:51	**11:08**	13H52M
31	◐	05:40	**07:28**	**12:21**	**11:11**	13H48M	05:46	**08:44**	**01:33**	**11:20**	14H58M	06:04	**07:54**	**12:48**	**11:35**	13H50M

August



Worth watching: Look forward to the 12th for a sky watching bonanza. A conjunction of Jupiter and Venus will bring both planets incredibly close in the sky, to within a degree. It will be best observed in the morning right before sunrise, since the planets are both close to the sun at this point of the year and do not rise until very late in the night. This same day, the moon also will approach Saturn, and the Perseids meteor shower will peak on this night, radiating from the constellation Perseus. The Moon will move to Jupiter on the 19th, Venus on the 20th, and Mars on the 26th.

D. = Day of the Month P. = Phase of the Moon LOD = Length of Day *Bold indicates PM time

D.	P.	NEW YORK CITY					RICHMOND					ATLANTA				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	◐	05:53	**08:11**	**01:58**	**11:47**	14H18M	06:14	**08:17**	**02:04**	--	14H3M	06:50	**08:38**	**02:25**	12:17	13H48M
2	🌔	05:54	**08:10**	**03:02**	--	14H16M	06:15	**08:16**	**03:06**	12:09	14H1M	06:51	**08:37**	**03:24**	12:47	13H46M
3	🌔	05:55	**08:09**	**04:05**	12:17	14H14M	06:16	**08:15**	**04:07**	12:42	13H59M	06:51	**08:36**	**04:23**	01:22	13H45M
4	🌔	05:56	**08:08**	**05:05**	12:55	14H12M	06:17	**08:14**	**05:06**	01:21	13H57M	06:52	**08:35**	**05:21**	02:03	13H43M
5	🌔	05:57	**08:06**	**06:01**	01:41	14H9M	06:17	**08:13**	**06:02**	02:09	13H56M	06:53	**08:34**	**06:16**	02:52	13H41M
6	🌔	05:58	**08:05**	**06:49**	02:37	14H7M	06:18	**08:12**	**06:51**	03:05	13H54M	06:53	**08:33**	**07:06**	03:48	13H40M
7	🌔	05:59	**08:04**	**07:29**	03:42	14H5M	06:19	**08:11**	**07:33**	04:08	13H52M	06:54	**08:32**	**07:50**	04:50	13H38M
8	🌔	06:00	**08:03**	**08:03**	04:52	14H3M	06:20	**08:10**	**08:08**	05:16	13H50M	06:55	**08:31**	**08:28**	05:56	13H36M
9	○	06:01	**08:02**	**08:31**	06:04	14H1M	06:21	**08:09**	**08:39**	06:26	13H48M	06:56	**08:30**	**09:01**	07:03	13H34M
10	🌖	06:02	**08:00**	**08:56**	07:17	13H58M	06:22	**08:08**	**09:06**	07:36	13H46M	06:56	**08:29**	**09:31**	08:10	13H33M
11	🌖	06:03	**07:59**	**09:19**	08:29	13H56M	06:23	**08:07**	**09:32**	08:46	13H44M	06:57	**08:28**	**10:00**	09:17	13H31M
12	🌖	06:04	**07:58**	**09:42**	09:41	13H54M	06:23	**08:05**	**09:58**	09:55	13H42M	06:58	**08:27**	**10:28**	10:23	13H29M
13	🌖	06:05	**07:56**	**10:06**	10:55	13H51M	06:24	**08:04**	**10:25**	11:06	13H40M	06:58	**08:26**	**10:58**	11:31	13H28M
14	🌖	06:06	**07:55**	**10:34**	**12:10**	13H49M	06:25	**08:03**	**10:55**	**12:18**	13H38M	06:59	**08:25**	**11:31**	**12:40**	13H26M
15	🌖	06:07	**07:54**	**11:07**	**01:26**	13H47M	06:26	**08:02**	**11:31**	**01:32**	13H36M	07:00	**08:24**	--	**01:51**	13H24M
16	◑	06:08	**07:52**	**11:49**	**02:43**	13H44M	06:27	**08:00**	--	**02:46**	13H33M	07:01	**08:22**	12:10	**03:03**	13H21M
17	🌘	06:09	**07:51**	--	**03:57**	13H42M	06:28	**07:59**	12:15	**03:58**	13H31M	07:01	**08:21**	12:56	**04:14**	13H20M
18	🌘	06:10	**07:49**	12:41	**05:02**	13H39M	06:29	**07:58**	01:08	**05:03**	13H29M	07:02	**08:20**	01:51	**05:18**	13H18M
19	🌘	06:11	**07:48**	01:43	**05:56**	13H37M	06:29	**07:57**	02:11	**05:58**	13H28M	07:03	**08:19**	02:54	**06:13**	13H16M
20	🌘	06:12	**07:46**	02:54	**06:38**	13H34M	06:30	**07:55**	03:20	**06:42**	13H25M	07:03	**08:18**	04:02	**07:00**	13H15M
21	🌘	06:13	**07:45**	04:07	**07:12**	13H32M	06:31	**07:54**	04:31	**07:18**	13H23M	07:04	**08:17**	05:10	**07:38**	13H13M
22	🌘	06:14	**07:43**	05:19	**07:39**	13H29M	06:32	**07:53**	05:40	**07:48**	13H21M	07:05	**08:15**	06:17	**08:10**	13H10M
23	●	06:15	**07:42**	06:28	**08:02**	13H27M	06:33	**07:51**	06:47	**08:13**	13H18M	07:05	**08:14**	07:21	**08:38**	13H9M
24	🌒	06:16	**07:40**	07:34	**08:23**	13H24M	06:34	**07:50**	07:51	**08:36**	13H16M	07:06	**08:13**	08:22	**09:03**	13H7M
25	🌒	06:17	**07:39**	08:38	**08:43**	13H22M	06:34	**07:48**	08:52	**08:58**	13H14M	07:07	**08:12**	09:21	**09:28**	13H5M
26	🌒	06:18	**07:37**	09:41	**09:02**	13H19M	06:35	**07:47**	09:52	**09:20**	13H12M	07:08	**08:10**	10:18	**09:52**	13H2M
27	🌒	06:19	**07:36**	10:43	**09:23**	13H17M	06:36	**07:46**	10:52	**09:43**	13H10M	07:08	**08:09**	11:15	**10:18**	13H1M
28	🌒	06:19	**07:34**	11:45	**09:47**	13H15M	06:37	**07:44**	11:52	**10:09**	13H7M	07:09	**08:08**	**12:13**	**10:46**	12H59M
29	🌒	06:20	**07:33**	**12:48**	**10:16**	13H13M	06:38	**07:43**	**12:53**	**10:40**	13H5M	07:10	**08:07**	**01:12**	**11:19**	12H57M
30	🌒	06:21	**07:31**	**01:51**	**10:50**	13H10M	06:39	**07:41**	**01:54**	**11:16**	13H2M	07:10	**08:05**	**02:11**	**11:57**	12H55M
31	◐	06:22	**07:29**	**02:53**	**11:32**	13H7M	06:40	**07:40**	**02:54**	**11:59**	13H0M	07:11	**08:04**	**03:10**	--	12H53M

D.	P.	ORLANDO					MINNEAPOLIS					CHICAGO				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	◐	06:47	**08:16**	**02:01**	12:14	13H29M	05:59	**08:39**	**02:31**	**11:52**	14H40M	05:45	**08:08**	**01:58**	**11:39**	14H23M
2	◐	06:48	**08:15**	**02:58**	12:47	13H27M	06:00	**08:38**	**03:38**	–	14H38M	05:46	**08:07**	**03:03**	–	14H21M
3	◐	06:49	**08:14**	**03:55**	01:24	13H25M	06:01	**08:37**	**04:44**	12:19	14H36M	05:47	**08:06**	**04:06**	12:09	14H19M
4	◐	06:49	**08:14**	**04:52**	02:07	13H25M	06:02	**08:35**	**05:46**	12:55	14H33M	05:48	**08:05**	**05:07**	12:46	14H17M
5	◐	06:50	**08:13**	**05:47**	02:56	13H23M	06:04	**08:34**	**06:41**	01:40	14H30M	05:49	**08:04**	**06:02**	01:32	14H15M
6	◐	06:50	**08:12**	**06:38**	03:52	13H22M	06:05	**08:32**	**07:27**	02:37	14H27M	05:50	**08:02**	**06:50**	02:29	14H12M
7	◐	06:51	**08:11**	**07:24**	04:53	13H20M	06:06	**08:31**	**08:04**	03:44	14H25M	05:51	**08:01**	**07:29**	03:34	14H10M
8	◐	06:51	**08:11**	**08:05**	05:56	13H20M	06:07	**08:30**	**08:34**	04:58	14H23M	05:52	**08:00**	**08:01**	04:45	14H8M
9	○	06:52	**08:10**	**08:41**	07:00	13H18M	06:08	**08:28**	**08:58**	06:14	14H20M	05:53	**07:58**	**08:28**	05:58	14H5M
10	◑	06:52	**08:09**	**09:15**	08:04	13H17M	06:09	**08:27**	**09:19**	07:31	14H18M	05:54	**07:57**	**08:52**	07:12	14H3M
11	◑	06:53	**08:08**	**09:47**	09:07	13H15M	06:11	**08:25**	**09:38**	08:47	14H14M	05:55	**07:56**	**09:14**	08:26	14H1M
12	◑	06:54	**08:07**	**10:18**	10:10	13H13M	06:12	**08:24**	**09:57**	10:04	14H12M	05:56	**07:54**	**09:36**	09:39	13H58M
13	◑	06:54	**08:06**	**10:52**	11:14	13H12M	06:13	**08:22**	**10:17**	11:21	14H9M	05:57	**07:53**	**10:00**	10:53	13H56M
14	◑	06:55	**08:05**	**11:29**	**12:19**	13H10M	06:14	**08:20**	**10:41**	**12:40**	14H6M	05:58	**07:52**	**10:27**	**12:09**	13H54M
15	◑	06:55	**08:04**	–	**01:27**	13H9M	06:15	**08:19**	**11:11**	**02:02**	14H4M	05:59	**07:50**	**10:59**	**01:27**	13H51M
16	◑	06:56	**08:03**	12:11	**02:36**	13H7M	06:17	**08:17**	**11:50**	**03:22**	14H0M	06:00	**07:49**	**11:40**	**02:45**	13H49M
17	◑	06:56	**08:02**	12:59	**03:44**	13H6M	06:18	**08:16**	–	**04:38**	13H58M	06:01	**07:47**	–	**03:59**	13H46M
18	◑	06:57	**08:01**	01:56	**04:48**	13H4M	06:19	**08:14**	12:40	**05:43**	13H55M	06:02	**07:46**	12:32	**05:04**	13H44M
19	◑	06:57	**08:00**	02:58	**05:45**	13H3M	06:20	**08:12**	01:43	**06:34**	13H52M	06:03	**07:44**	01:35	**05:57**	13H41M
20	◑	06:58	**07:59**	04:04	**06:34**	13H1M	06:21	**08:11**	02:56	**07:13**	13H50M	06:04	**07:43**	02:46	**06:38**	13H39M
21	◑	06:58	**07:58**	05:10	**07:15**	13H0M	06:22	**08:09**	04:13	**07:43**	13H47M	06:05	**07:41**	04:00	**07:11**	13H36M
22	◑	06:59	**07:57**	06:14	**07:50**	12H58M	06:24	**08:07**	05:29	**08:06**	13H43M	06:06	**07:40**	05:13	**07:37**	13H34M
23	●	06:59	**07:56**	07:15	**08:21**	12H57M	06:25	**08:05**	06:42	**08:25**	13H40M	06:07	**07:38**	06:23	**07:59**	13H31M
24	◐	07:00	**07:55**	08:12	**08:50**	12H55M	06:26	**08:04**	07:52	**08:42**	13H38M	06:08	**07:36**	07:30	**08:18**	13H28M
25	◐	07:00	**07:54**	09:08	**09:17**	12H54M	06:27	**08:02**	08:59	**08:58**	13H35M	06:09	**07:35**	08:35	**08:37**	13H26M
26	◐	07:01	**07:53**	10:02	**09:45**	12H52M	06:28	**08:00**	10:05	**09:15**	13H32M	06:10	**07:33**	09:38	**08:56**	13H23M
27	◐	07:01	**07:52**	10:56	**10:13**	12H51M	06:30	**07:58**	11:11	**09:33**	13H28M	06:11	**07:32**	10:41	**09:16**	13H21M
28	◐	07:02	**07:51**	11:51	**10:45**	12H49M	06:31	**07:57**	**12:17**	**09:53**	13H26M	06:12	**07:30**	11:45	**09:40**	13H18M
29	◐	07:02	**07:50**	**12:47**	**11:20**	12H48M	06:32	**07:55**	**01:24**	**10:19**	13H23M	06:14	**07:28**	**12:49**	**10:07**	13H14M
30	◐	07:03	**07:49**	**01:44**	–	12H46M	06:33	**07:53**	**02:30**	**10:50**	13H20M	06:15	**07:27**	**01:53**	**10:41**	13H12M
31	◐	07:03	**07:48**	**02:41**	12:00	12H45M	06:34	**07:51**	**03:33**	**11:31**	13H17M	06:16	**07:25**	**02:55**	**11:23**	13H9M

D.	P.	KANSAS CITY					MEMPHIS					SAN ANTONIO				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	◐	06:19	**08:30**	**02:20**	–	14H11M	06:10	**08:03**	**01:51**	–	13H53M	06:54	**08:26**	**02:14**	12:23	13H32M
2	◐	06:20	**08:28**	**03:22**	12:15	14H8M	06:10	**08:02**	**02:51**	12:07	13H52M	06:55	**08:25**	**03:11**	12:55	13H30M
3	◐	06:21	**08:27**	**04:24**	12:47	14H6M	06:11	**08:01**	**03:51**	12:41	13H50M	06:56	**08:24**	**04:09**	01:32	13H28M
4	◐	06:22	**08:26**	**05:24**	01:26	14H4M	06:12	**08:00**	**04:50**	01:22	13H48M	06:56	**08:24**	**05:06**	02:15	13H28M
5	◐	06:23	**08:25**	**06:19**	02:13	14H2M	06:13	**07:59**	**05:45**	02:10	13H46M	06:57	**08:23**	**06:01**	03:04	13H26M
6	◐	06:24	**08:24**	**07:07**	03:10	14H0M	06:13	**07:58**	**06:34**	03:06	13H45M	06:57	**08:22**	**06:51**	04:01	13H25M
7	◐	06:25	**08:23**	**07:48**	04:14	13H58M	06:14	**07:57**	**07:17**	04:09	13H43M	06:58	**08:21**	**07:37**	05:02	13H23M
8	◐	06:26	**08:22**	**08:22**	05:23	13H56M	06:15	**07:56**	**07:54**	05:16	13H41M	06:58	**08:20**	**08:17**	06:06	13H22M
9	○	06:26	**08:20**	**08:52**	06:34	13H54M	06:16	**07:55**	**08:26**	06:24	13H39M	06:59	**08:19**	**08:53**	07:10	13H20M
10	◑	06:27	**08:19**	**09:18**	07:46	13H52M	06:16	**07:54**	**08:56**	07:32	13H38M	07:00	**08:19**	**09:25**	08:14	13H19M
11	◑	06:28	**08:18**	**09:42**	08:57	13H50M	06:17	**07:53**	**09:23**	08:40	13H36M	07:00	**08:18**	**09:57**	09:18	13H18M

August

D. = Day of the Month P. = Phase of the Moon LOD = Length of Day *Bold indicates PM time

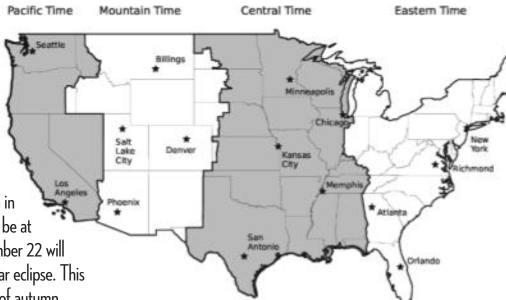
D.	P.	KANSAS CITY					MEMPHIS					SAN ANTONIO				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
12	🌖	06:29	**08:17**	**10:06**	10:07	13H48M	06:18	**07:52**	**09:50**	09:47	13H34M	07:01	**08:17**	**10:28**	10:22	13H16M
13	🌖	06:30	**08:15**	**10:32**	11:19	13H45M	06:19	**07:51**	**10:19**	10:56	13H32M	07:01	**08:16**	**11:01**	11:26	13H15M
14	🌖	06:31	**08:14**	**11:02**	**12:33**	13H43M	06:20	**07:50**	**10:52**	**12:06**	13H30M	07:02	**08:15**	**11:37**	**12:32**	13H13M
15	🌖	06:32	**08:13**	**11:37**	**01:48**	13H41M	06:20	**07:48**	**11:30**	**01:19**	13H28M	07:02	**08:14**	–	**01:41**	13H12M
16	◑	06:33	**08:12**	–	**03:04**	13H39M	06:21	**07:47**	–	**02:32**	13H26M	07:03	**08:13**	12:19	**02:50**	13H10M
17	🌘	06:34	**08:10**	12:20	**04:16**	13H36M	06:22	**07:46**	12:15	**03:42**	13H24M	07:04	**08:12**	01:08	**03:59**	13H8M
18	🌘	06:35	**08:09**	01:13	**05:21**	13H34M	06:23	**07:45**	01:10	**04:46**	13H22M	07:04	**08:11**	02:04	**05:02**	13H7M
19	🌘	06:36	**08:07**	02:16	**06:14**	13H31M	06:23	**07:44**	02:13	**05:42**	13H21M	07:05	**08:10**	03:07	**05:59**	13H5M
20	🌘	06:37	**08:06**	03:26	**06:58**	13H29M	06:24	**07:42**	03:21	**06:27**	13H18M	07:05	**08:09**	04:13	**06:47**	13H4M
21	🌘	06:37	**08:05**	04:38	**07:32**	13H28M	06:25	**07:41**	04:30	**07:04**	13H16M	07:06	**08:08**	05:20	**07:27**	13H2M
22	🌘	06:38	**08:03**	05:49	**08:00**	13H25M	06:26	**07:40**	05:38	**07:35**	13H14M	07:06	**08:07**	06:24	**08:01**	13H1M
23	●	06:39	**08:02**	06:57	**08:24**	13H23M	06:26	**07:39**	06:43	**08:02**	13H13M	07:07	**08:06**	07:25	**08:32**	12H59M
24	🌒	06:40	**08:00**	08:01	**08:46**	13H20M	06:27	**07:37**	07:45	**08:27**	13H10M	07:07	**08:05**	08:23	**09:00**	12H58M
25	🌒	06:41	**07:59**	09:04	**09:07**	13H18M	06:28	**07:36**	08:44	**08:50**	13H8M	07:08	**08:03**	09:19	**09:27**	12H55M
26	🌒	06:42	**07:57**	10:05	**09:28**	13H15M	06:29	**07:35**	09:43	**09:14**	13H6M	07:09	**08:02**	10:14	**09:54**	12H53M
27	🌒	06:43	**07:56**	11:06	09:50	13H13M	06:29	**07:33**	10:41	**09:39**	13H4M	07:09	**08:01**	11:08	**10:22**	12H52M
28	🌒	06:44	**07:54**	**12:07**	**10:15**	13H10M	06:30	**07:32**	11:40	**10:06**	13H2M	07:10	**08:00**	**12:04**	**10:53**	12H50M
29	🌒	06:45	**07:53**	**01:09**	**10:45**	13H8M	06:31	**07:31**	**12:39**	**10:38**	13H0M	07:10	**07:59**	**01:00**	**11:28**	12H49M
30	🌒	06:46	**07:51**	**02:11**	**11:20**	13H5M	06:32	**07:29**	**01:39**	**11:16**	12H57M	07:11	**07:58**	**01:57**	–	12H47M
31	◐	06:47	**07:50**	**03:12**	–	13H3M	06:32	**07:28**	**02:38**	–	12H56M	07:11	**07:57**	**02:54**	12:08	12H46M

D.	P.	BILLINGS					SALT LAKE CITY					DENVER				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	◐	05:58	**08:42**	**02:38**	**11:51**	14H44M	06:25	**08:43**	**02:37**	–	14H18M	05:59	**08:13**	**02:05**	**11:56**	14H14M
2	🌔	05:59	**08:41**	**03:45**	–	14H42M	06:26	**08:41**	**03:40**	12:21	14H15M	06:00	**08:11**	**03:08**	–	14H11M
3	🌔	06:00	**08:40**	**04:52**	12:18	14H40M	06:27	**08:40**	**04:43**	12:52	14H13M	06:01	**08:10**	**04:10**	12:27	14H9M
4	🌔	06:01	**08:38**	**05:54**	12:53	14H37M	06:27	**08:39**	**05:43**	01:31	14H12M	06:02	**08:09**	**05:10**	01:06	14H7M
5	🌔	06:02	**08:37**	**06:49**	01:39	14H35M	06:28	**08:38**	**06:38**	02:18	14H10M	06:03	**08:08**	**06:05**	01:54	14H5M
6	🌔	06:04	**08:35**	**07:34**	02:36	14H31M	06:29	**08:37**	**07:25**	03:15	14H8M	06:04	**08:07**	**06:53**	02:51	14H3M
7	🌔	06:05	**08:34**	**08:10**	03:44	14H29M	06:30	**08:36**	**08:05**	04:20	14H6M	06:05	**08:06**	**07:33**	03:55	14H1M
8	🌔	06:06	**08:32**	**08:38**	04:59	14H26M	06:31	**08:34**	**08:37**	05:31	14H3M	06:06	**08:05**	**08:06**	05:05	13H59M
9	○	06:07	**08:31**	**09:01**	06:16	14H24M	06:32	**08:33**	**09:05**	06:43	14H1M	06:07	**08:03**	**08:35**	06:17	13H56M
10	🌖	06:08	**08:29**	**09:21**	07:33	14H21M	06:33	**08:32**	**09:30**	07:56	13H59M	06:08	**08:02**	**09:01**	07:28	13H54M
11	🌖	06:10	**08:28**	**09:40**	08:51	14H18M	06:34	**08:30**	**09:53**	09:08	13H56M	06:09	**08:01**	**09:24**	08:40	13H52M
12	🌖	06:11	**08:26**	**09:58**	10:08	14H15M	06:35	**08:29**	**10:16**	10:21	13H54M	06:10	**08:00**	**09:48**	09:51	13H50M
13	🌖	06:12	**08:25**	**10:18**	11:26	14H13M	06:36	**08:28**	**10:40**	11:34	13H52M	06:11	**07:58**	**10:14**	11:04	13H47M
14	🌖	06:13	**08:23**	**10:41**	**12:47**	14H10M	06:37	**08:26**	**11:08**	**12:49**	13H49M	06:11	**07:57**	**10:43**	**12:18**	13H46M
15	🌖	06:15	**08:21**	**11:10**	**02:09**	14H6M	06:38	**08:25**	**11:43**	**02:06**	13H47M	06:12	**07:56**	**11:17**	**01:34**	13H44M
16	◑	06:16	**08:20**	**11:49**	**03:30**	14H4M	06:39	**08:24**	–	**03:23**	13H45M	06:13	**07:54**	–	**02:50**	13H41M
17	🌘	06:17	**08:18**	–	**04:46**	14H1M	06:40	**08:22**	12:25	**04:36**	13H42M	06:14	**07:53**	12:01	**04:02**	13H39M
18	🌘	06:18	**08:16**	12:39	**05:51**	13H58M	06:41	**08:21**	01:18	**05:40**	13H40M	06:15	**07:51**	12:54	**05:07**	13H36M
19	🌘	06:19	**08:15**	01:43	**06:41**	13H56M	06:42	**08:19**	02:22	**06:33**	13H37M	06:16	**07:50**	01:57	**06:00**	13H34M
20	🌘	06:21	**08:13**	02:56	**07:19**	13H52M	06:43	**08:18**	03:33	**07:14**	13H35M	06:17	**07:49**	03:07	**06:42**	13H32M

D.	P.	BILLINGS					SALT LAKE CITY					DENVER				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
21	◑	06:22	**08:11**	04:14	**07:47**	13H49M	06:44	**08:16**	04:46	**07:47**	13H32M	06:18	**07:47**	04:20	**07:16**	13H29M
22	◑	06:23	**08:09**	05:31	**08:09**	13H46M	06:45	**08:15**	05:58	**08:13**	13H30M	06:19	**07:46**	05:31	**07:44**	13H27M
23	●	06:24	**08:08**	06:45	**08:28**	13H44M	06:46	**08:13**	07:07	**08:36**	13H27M	06:20	**07:44**	06:39	**08:07**	13H24M
24	◐	06:26	**08:06**	07:55	**08:44**	13H40M	06:47	**08:12**	08:13	**08:57**	13H25M	06:21	**07:43**	07:44	**08:28**	13H22M
25	◐	06:27	**08:04**	09:03	**08:59**	13H37M	06:48	**08:10**	09:16	**09:16**	13H22M	06:22	**07:41**	08:47	**08:49**	13H19M
26	◐	06:28	**08:02**	10:10	**09:15**	13H34M	06:49	**08:09**	10:19	**09:36**	13H20M	06:23	**07:40**	09:49	**09:09**	13H17M
27	◐	06:29	**08:01**	11:16	**09:33**	13H32M	06:50	**08:07**	11:21	**09:57**	13H17M	06:24	**07:38**	10:50	**09:31**	13H14M
28	◐	06:31	**07:59**	**12:23**	**09:53**	13H28M	06:51	**08:06**	**12:23**	**10:22**	13H15M	06:25	**07:37**	11:52	**09:56**	13H12M
29	◐	06:32	**07:57**	**01:30**	**10:17**	13H25M	06:52	**08:04**	**01:27**	**10:50**	13H12M	06:26	**07:35**	**12:55**	**10:25**	13H9M
30	◐	06:33	**07:55**	**02:37**	**10:49**	13H22M	06:53	**08:02**	**02:30**	**11:25**	13H9M	06:27	**07:34**	**01:57**	**11:01**	13H7M
31	◐	06:34	**07:53**	**03:41**	**11:30**	13H19M	06:54	**08:01**	**03:31**	–	13H7M	06:27	**07:32**	**02:58**	**11:44**	13H5M

D.	P.	PHOENIX					SEATTLE					LOS ANGELES				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	◐	05:41	**07:28**	**01:19**	**11:41**	13H47M	05:47	**08:43**	**02:42**	**11:40**	14H56M	06:05	**07:53**	**01:46**	–	13H48M
2	◐	05:42	**07:27**	**02:18**	–	13H45M	05:49	**08:42**	**03:51**	–	14H53M	06:05	**07:53**	**02:45**	12:05	13H48M
3	◐	05:43	**07:26**	**03:17**	12:17	13H43M	05:50	**08:40**	**04:59**	12:06	14H50M	06:06	**07:52**	**03:45**	12:40	13H46M
4	◐	05:43	**07:25**	**04:15**	12:58	13H42M	05:51	**08:39**	**06:02**	12:40	14H48M	06:07	**07:51**	**04:43**	01:22	13H44M
5	◐	05:44	**07:24**	**05:10**	01:48	13H40M	05:53	**08:37**	**06:57**	01:26	14H44M	06:08	**07:50**	**05:38**	02:11	13H42M
6	◐	05:45	**07:23**	**06:00**	02:44	13H38M	05:54	**08:36**	**07:40**	02:24	14H42M	06:08	**07:49**	**06:27**	03:08	13H41M
7	◐	05:45	**07:22**	**06:43**	03:47	13H37M	05:55	**08:34**	**08:14**	03:33	14H39M	06:09	**07:48**	**07:10**	04:10	13H39M
8	◐	05:46	**07:21**	**07:21**	04:52	13H35M	05:57	**08:32**	**08:40**	04:49	14H35M	06:10	**07:47**	**07:47**	05:17	13H37M
9	○	05:47	**07:20**	**07:54**	06:00	13H33M	05:58	**08:31**	**09:01**	06:09	14H33M	06:10	**07:46**	**08:20**	06:24	13H36M
10	◑	05:48	**07:19**	**08:24**	07:06	13H31M	05:59	**08:29**	**09:19**	07:28	14H30M	06:11	**07:45**	**08:50**	07:32	13H34M
11	◑	05:48	**07:18**	**08:53**	08:13	13H30M	06:00	**08:28**	**09:36**	08:48	14H28M	06:12	**07:44**	**09:18**	08:38	13H32M
12	◑	05:49	**07:17**	**09:21**	09:19	13H28M	06:02	**08:26**	**09:52**	10:07	14H24M	06:13	**07:43**	**09:46**	09:45	13H30M
13	◑	05:50	**07:16**	**09:52**	10:27	13H26M	06:03	**08:24**	**10:10**	11:28	14H21M	06:13	**07:42**	**10:16**	10:53	13H29M
14	◑	05:50	**07:15**	**10:25**	11:36	13H25M	06:04	**08:22**	**10:32**	**12:50**	14H18M	06:14	**07:40**	**10:50**	**12:03**	13H26M
15	◑	05:51	**07:14**	**11:05**	**12:47**	13H23M	06:06	**08:21**	**10:59**	**02:14**	14H15M	06:15	**07:39**	**11:29**	**01:14**	13H24M
16	◑	05:52	**07:13**	**11:52**	**01:59**	13H21M	06:07	**08:19**	**11:36**	**03:38**	14H12M	06:16	**07:38**	–	**02:27**	13H22M
17	◑	05:52	**07:12**	–	**03:08**	13H20M	06:08	**08:17**	–	**04:55**	14H9M	06:16	**07:37**	12:16	**03:36**	13H21M
18	◑	05:53	**07:10**	12:47	**04:12**	13H17M	06:10	**08:15**	12:26	**05:59**	14H5M	06:17	**07:36**	01:11	**04:40**	13H19M
19	◑	05:54	**07:09**	01:51	**05:07**	13H15M	06:11	**08:14**	01:31	**06:48**	14H3M	06:18	**07:35**	02:14	**05:35**	13H17M
20	◑	05:55	**07:08**	02:58	**05:53**	13H13M	06:12	**08:12**	02:46	**07:23**	14H0M	06:18	**07:34**	03:22	**06:20**	13H16M
21	◑	05:55	**07:07**	04:07	**06:31**	13H12M	06:14	**08:10**	04:05	**07:49**	13H56M	06:19	**07:32**	04:31	**06:57**	13H13M
22	◑	05:56	**07:06**	05:14	**07:03**	13H10M	06:15	**08:08**	05:24	**08:09**	13H53M	06:20	**07:31**	05:38	**07:29**	13H11M
23	●	05:57	**07:04**	06:17	**07:30**	13H7M	06:16	**08:06**	06:39	**08:26**	13H50M	06:21	**07:30**	06:42	**07:56**	13H9M
24	◐	05:57	**07:03**	07:18	**07:56**	13H6M	06:18	**08:04**	07:52	**08:40**	13H46M	06:21	**07:29**	07:43	**08:21**	13H8M
25	◐	05:58	**07:02**	08:16	**08:20**	13H4M	06:19	**08:02**	09:01	**08:54**	13H43M	06:22	**07:27**	08:42	**08:45**	13H5M
26	◐	05:59	**07:01**	09:13	**08:45**	13H2M	06:21	**08:01**	10:10	**09:08**	13H40M	06:23	**07:26**	09:39	**09:09**	13H3M
27	◐	05:59	**06:59**	10:10	**09:11**	13H0M	06:22	**07:59**	11:18	**09:24**	13H37M	06:23	**07:25**	10:37	**09:35**	13H2M
28	◐	06:00	**06:58**	11:08	**09:40**	12H58M	06:23	**07:57**	**12:27**	**09:43**	13H34M	06:24	**07:23**	11:35	**10:04**	12H59M
29	◐	06:01	**06:57**	**12:06**	**10:13**	12H56M	06:25	**07:55**	**01:36**	**10:06**	13H30M	06:25	**07:22**	**12:34**	**10:37**	12H57M
30	◐	06:01	**06:56**	**01:05**	**10:52**	12H55M	06:26	**07:53**	**02:44**	**10:36**	13H27M	06:25	**07:21**	**01:33**	**11:15**	12H56M
31	◐	06:02	**06:54**	**02:04**	**11:37**	12H52M	06:27	**07:51**	**03:49**	**11:16**	13H24M	06:26	**07:20**	**02:31**	–	12H54M

September



Worth watching: September is about Saturn, starting with a conjunction of the ringed planet with the moon on the 8th, and leading into Saturn's moment of opposition between the 20th and the 21st. This will be the best moment of the entire year to observe Saturn; it will be high in the sky around midnight in the constellation Pisces and will be at its brightest for the entire year during this moment. September 22 will bring a partial lunar eclipse, also known as a penumbral lunar eclipse. This same day will mark the autumn equinox and the beginning of autumn.

D. = Day of the Month P. = Phase of the Moon LOD = Length of Day *Bold indicates PM time

D.	P.	NEW YORK CITY					RICHMOND					ATLANTA				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	◐	06:23	**07:28**	**03:50**	–	13H5M	06:40	**07:38**	**03:51**	–	12H58M	07:12	**08:03**	**04:06**	12:42	12H51M
2	◐	06:24	**07:26**	**04:41**	12:23	13H2M	06:41	**07:37**	**04:42**	12:51	12H56M	07:12	**08:01**	**04:57**	01:34	12H49M
3	◐	06:25	**07:24**	**05:24**	01:24	12H59M	06:42	**07:35**	**05:27**	01:51	12H53M	07:13	**08:00**	**05:43**	02:33	12H47M
4	◐	06:26	**07:23**	**06:00**	02:31	12H57M	06:43	**07:34**	**06:05**	02:56	12H51M	07:14	**07:59**	**06:23**	03:37	12H45M
5	◐	06:27	**07:21**	**06:30**	03:43	12H54M	06:44	**07:32**	**06:38**	04:06	12H48M	07:14	**07:57**	**06:59**	04:44	12H43M
6	◐	06:28	**07:20**	**06:57**	04:56	12H52M	06:44	**07:31**	**07:06**	05:16	12H47M	07:15	**07:56**	**07:30**	05:52	12H41M
7	○	06:29	**07:18**	**07:21**	06:09	12H49M	06:45	**07:29**	**07:33**	06:27	12H44M	07:16	**07:55**	**08:00**	07:00	12H39M
8	◑	06:30	**07:16**	**07:44**	07:23	12H46M	06:46	**07:28**	**07:59**	07:38	12H42M	07:16	**07:53**	**08:29**	08:08	12H37M
9	◑	06:31	**07:15**	**08:09**	08:38	12H44M	06:47	**07:26**	**08:26**	08:50	12H39M	07:17	**07:52**	**08:59**	09:17	12H35M
10	◑	06:32	**07:13**	**08:36**	09:55	12H41M	06:48	**07:25**	**08:56**	10:04	12H37M	07:18	**07:50**	**09:32**	10:27	12H32M
11	◑	06:33	**07:11**	**09:08**	11:13	12H38M	06:49	**07:23**	**09:31**	11:20	12H34M	07:18	**07:49**	**10:09**	11:40	12H31M
12	◑	06:34	**07:10**	**09:47**	**12:32**	12H36M	06:49	**07:22**	**10:13**	**12:36**	12H33M	07:19	**07:48**	**10:54**	**12:54**	12H29M
13	◑	06:35	**07:08**	**10:37**	**01:48**	12H33M	06:50	**07:20**	**11:04**	**01:50**	12H30M	07:20	**07:46**	**11:46**	**02:06**	12H26M
14	◑	06:36	**07:06**	**11:36**	**02:56**	12H30M	06:51	**07:19**	–	**02:57**	12H28M	07:20	**07:45**	–	**03:12**	12H25M
15	◑	06:37	**07:04**	–	**03:53**	12H27M	06:52	**07:17**	12:04	**03:55**	12H25M	07:21	**07:44**	12:47	**04:10**	12H23M
16	◑	06:38	**07:03**	12:44	**04:39**	12H25M	06:53	**07:15**	01:10	**04:42**	12H22M	07:22	**07:42**	01:53	**04:59**	12H20M
17	◑	06:39	**07:01**	01:55	**05:14**	12H22M	06:54	**07:14**	02:20	**05:19**	12H20M	07:22	**07:41**	03:00	**05:38**	12H19M
18	◑	06:40	**06:59**	03:07	**05:43**	12H19M	06:54	**07:12**	03:29	**05:50**	12H18M	07:23	**07:39**	04:07	**06:12**	12H16M
19	◑	06:41	**06:58**	04:16	**06:07**	12H17M	06:55	**07:11**	04:36	**06:16**	12H16M	07:24	**07:38**	05:11	**06:40**	12H14M
20	◑	06:42	**06:56**	05:22	**06:28**	12H14M	06:56	**07:09**	05:39	**06:40**	12H13M	07:25	**07:37**	06:12	**07:06**	12H12M
21	●	06:43	**06:54**	06:26	**06:47**	12H11M	06:57	**07:08**	06:41	**07:02**	12H11M	07:25	**07:35**	07:11	**07:31**	12H10M
22	◐	06:44	**06:53**	07:29	**07:07**	12H9M	06:58	**07:06**	07:41	**07:23**	12H8M	07:26	**07:34**	08:08	**07:55**	12H8M
23	◐	06:45	**06:51**	08:31	**07:27**	12H6M	06:59	**07:05**	08:41	**07:46**	12H6M	07:27	**07:32**	09:05	**08:20**	12H5M
24	◐	06:46	**06:49**	09:33	**07:50**	12H3M	07:00	**07:03**	09:41	**08:11**	12H3M	07:27	**07:31**	10:03	**08:47**	12H4M
25	◐	06:47	**06:48**	10:36	**08:16**	12H1M	07:00	**07:02**	10:42	**08:40**	12H2M	07:28	**07:30**	11:01	**09:18**	12H2M
26	◐	06:48	**06:46**	11:39	**08:48**	11H58M	07:01	**07:00**	11:43	**09:13**	11H59M	07:29	**07:28**	**12:00**	**09:54**	11H59M
27	◐	06:49	**06:44**	**12:41**	**09:27**	11H55M	07:02	**06:58**	**12:43**	**09:53**	11H56M	07:29	**07:27**	**12:59**	**10:36**	11H58M
28	◐	06:50	**06:43**	**01:40**	**10:14**	11H53M	07:03	**06:57**	**01:41**	**10:41**	11H54M	07:30	**07:26**	**01:55**	**11:24**	11H56M
29	◐	06:51	**06:41**	**02:32**	**11:09**	11H50M	07:04	**06:55**	**02:33**	**11:37**	11H51M	07:31	**07:24**	**02:48**	–	11H53M
30	◐	06:52	**06:39**	**03:18**	–	11H47M	07:05	**06:54**	**03:20**	–	11H49M	07:32	**07:23**	**03:36**	12:19	11H51M

D.	P.	ORLANDO					MINNEAPOLIS					CHICAGO				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	🌔	07:04	**07:46**	**03:36**	12:46	12H42M	06:36	**07:49**	**04:31**	–	13H13M	06:17	**07:23**	**03:52**	–	13H6M
2	🌔	07:04	**07:45**	**04:28**	01:39	12H41M	06:37	**07:48**	**05:20**	12:22	13H11M	06:18	**07:22**	**04:42**	12:15	13H4M
3	🌔	07:05	**07:44**	**05:16**	02:37	12H39M	06:38	**07:46**	**06:01**	01:25	13H8M	06:19	**07:20**	**05:25**	01:16	13H1M
4	🌔	07:05	**07:43**	**05:59**	03:39	12H38M	06:39	**07:44**	**06:33**	02:35	13H5M	06:20	**07:18**	**05:59**	02:24	12H58M
5	🌔	07:06	**07:42**	**06:37**	04:43	12H36M	06:40	**07:42**	**06:59**	03:50	13H2M	06:21	**07:17**	**06:29**	03:36	12H56M
6	🌔	07:06	**07:41**	**07:12**	05:47	12H35M	06:42	**07:40**	**07:22**	05:08	12H58M	06:22	**07:15**	**06:54**	04:51	12H53M
7	🌕	07:07	**07:40**	**07:45**	06:51	12H33M	06:43	**07:38**	**07:42**	06:26	12H55M	06:23	**07:13**	**07:17**	06:05	12H50M
8	🌖	07:07	**07:38**	**08:18**	07:56	12H31M	06:44	**07:36**	**08:01**	07:44	12H52M	06:24	**07:11**	**07:39**	07:20	12H47M
9	🌖	07:08	**07:37**	**08:51**	09:01	12H29M	06:45	**07:35**	**08:22**	09:03	12H50M	06:25	**07:10**	**08:03**	08:36	12H45M
10	🌖	07:08	**07:36**	**09:28**	10:08	12H28M	06:46	**07:33**	**08:45**	10:24	12H47M	06:26	**07:08**	**08:29**	09:54	12H42M
11	🌖	07:09	**07:35**	**10:09**	11:17	12H26M	06:47	**07:31**	**09:13**	11:47	12H44M	06:27	**07:06**	**09:00**	11:14	12H39M
12	🌖	07:09	**07:34**	**10:56**	**12:27**	12H25M	06:49	**07:29**	**09:49**	**01:10**	12H40M	06:28	**07:05**	**09:39**	**12:34**	12H37M
13	🌖	07:10	**07:32**	**11:51**	**01:37**	12H22M	06:50	**07:27**	**10:36**	**02:29**	12H37M	06:29	**07:03**	**10:28**	**01:50**	12H34M
14	🌗	07:10	**07:31**	–	**02:43**	12H21M	06:51	**07:25**	**11:36**	**03:38**	12H34M	06:30	**07:01**	**11:27**	**02:59**	12H31M
15	🌘	07:11	**07:30**	12:51	**03:41**	12H19M	06:52	**07:23**	–	**04:33**	12H31M	06:31	**06:59**	–	**03:55**	12H28M
16	🌘	07:11	**07:29**	01:56	**04:32**	12H18M	06:53	**07:21**	12:45	**05:15**	12H28M	06:32	**06:58**	12:36	**04:39**	12H26M
17	🌘	07:12	**07:28**	03:01	**05:14**	12H16M	06:55	**07:19**	02:00	**05:46**	12H24M	06:33	**06:56**	01:48	**05:13**	12H23M
18	🌘	07:12	**07:26**	04:05	**05:51**	12H14M	06:56	**07:17**	03:15	**06:11**	12H21M	06:34	**06:54**	03:01	**05:41**	12H20M
19	🌘	07:13	**07:25**	05:05	**06:23**	12H12M	06:57	**07:16**	04:28	**06:31**	12H19M	06:35	**06:52**	04:11	**06:03**	12H17M
20	🌘	07:13	**07:24**	06:03	**06:52**	12H11M	06:58	**07:14**	05:38	**06:48**	12H16M	06:36	**06:51**	05:18	**06:23**	12H15M
21	🌑	07:14	**07:23**	06:59	**07:19**	12H9M	06:59	**07:12**	06:46	**07:04**	12H13M	06:37	**06:49**	06:23	**06:42**	12H12M
22	🌒	07:14	**07:22**	07:53	**07:46**	12H8M	07:01	**07:10**	07:52	**07:21**	12H9M	06:38	**06:47**	07:26	**07:01**	12H9M
23	🌒	07:15	**07:20**	08:47	**08:14**	12H5M	07:02	**07:08**	08:57	**07:38**	12H6M	06:39	**06:45**	08:29	**07:21**	12H6M
24	🌒	07:15	**07:19**	09:42	**08:45**	12H4M	07:03	**07:06**	10:03	**07:57**	12H3M	06:40	**06:44**	09:32	**07:43**	12H4M
25	🌒	07:16	**07:18**	10:38	**09:18**	12H2M	07:04	**07:04**	11:10	**08:21**	12H0M	06:41	**06:42**	10:36	**08:08**	12H1M
26	🌒	07:16	**07:17**	11:34	**09:56**	12H1M	07:05	**07:02**	**12:16**	**08:50**	11H57M	06:42	**06:40**	11:40	**08:39**	11H58M
27	🌒	07:17	**07:16**	**12:31**	**10:39**	11H59M	07:07	**07:00**	**01:21**	**09:26**	11H53M	06:44	**06:38**	**12:43**	**09:18**	11H54M
28	🌒	07:17	**07:14**	**01:26**	**11:29**	11H57M	07:08	**06:58**	**02:21**	**10:12**	11H50M	06:45	**06:37**	**01:42**	**10:05**	11H52M
29	🌒	07:18	**07:13**	**02:19**	–	11H55M	07:09	**06:57**	**03:13**	**11:09**	11H48M	06:46	**06:35**	**02:34**	**11:01**	11H49M
30	🌒	07:18	**07:12**	**03:07**	**12:23**	11H54M	07:10	**06:55**	**03:56**	–	11H45M	06:47	**06:33**	**03:19**	–	11H46M

D.	P.	KANSAS CITY					MEMPHIS					SAN ANTONIO				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	🌔	06:47	**07:48**	**04:08**	12:04	13H1M	06:33	**07:26**	**03:34**	12:00	12H53M	07:12	**07:56**	**03:50**	12:54	12H44M
2	🌔	06:48	**07:47**	**04:59**	12:56	12H59M	06:34	**07:25**	**04:25**	12:53	12H51M	07:12	**07:54**	**04:42**	01:47	12H42M
3	🌔	06:49	**07:45**	**05:43**	01:56	12H56M	06:35	**07:24**	**05:11**	01:52	12H49M	07:13	**07:53**	**05:29**	02:46	12H40M
4	🌔	06:50	**07:44**	**06:19**	03:03	12H54M	06:35	**07:22**	**05:50**	02:57	12H47M	07:13	**07:52**	**06:11**	03:48	12H39M
5	🌔	06:51	**07:42**	**06:51**	04:13	12H51M	06:36	**07:21**	**06:24**	04:04	12H45M	07:14	**07:51**	**06:49**	04:52	12H37M
6	🌔	06:52	**07:40**	**07:18**	05:25	12H48M	06:37	**07:19**	**06:55**	05:13	12H42M	07:14	**07:50**	**07:23**	05:57	12H36M
7	🌕	06:53	**07:39**	**07:44**	06:37	12H46M	06:37	**07:18**	**07:23**	06:22	12H41M	07:15	**07:48**	**07:55**	07:02	12H33M
8	🌖	06:54	**07:37**	**08:09**	07:50	12H43M	06:38	**07:17**	**07:51**	07:31	12H39M	07:15	**07:47**	**08:27**	08:07	12H32M
9	🌖	06:55	**07:36**	**08:34**	09:03	12H41M	06:39	**07:15**	**08:20**	08:41	12H36M	07:16	**07:46**	**09:01**	09:13	12H30M
10	🌖	06:56	**07:34**	**09:03**	10:19	12H38M	06:40	**07:14**	**08:52**	09:53	12H34M	07:16	**07:45**	**09:37**	10:21	12H29M
11	🌖	06:56	**07:32**	**09:37**	11:36	12H36M	06:40	**07:12**	**09:29**	11:07	12H32M	07:17	**07:44**	**10:17**	11:30	12H27M

September

D. = Day of the Month P. = Phase of the Moon LOD = Length of Day *Bold indicates PM time

D.	P.	KANSAS CITY					MEMPHIS					SAN ANTONIO				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
12	🌔	06:57	**07:31**	**10:18**	**12:53**	12H34M	06:41	**07:11**	**10:13**	**12:22**	12H30M	07:17	**07:42**	**11:05**	**12:41**	12H25M
13	🌕	06:58	**07:29**	**11:09**	**02:08**	12H31M	06:42	**07:09**	**11:05**	**01:34**	12H27M	07:18	**07:41**	**11:59**	**01:51**	12H23M
14	🌖	06:59	**07:28**	–	**03:15**	12H29M	06:43	**07:08**	–	**02:41**	12H25M	07:18	**07:40**	–	**02:57**	12H22M
15	🌖	07:00	**07:26**	12:09	**04:12**	12H26M	06:43	**07:07**	12:05	**03:38**	12H24M	07:19	**07:39**	01:00	**03:55**	12H20M
16	🌖	07:01	**07:24**	01:16	**04:58**	12H23M	06:44	**07:05**	01:12	**04:26**	12H21M	07:19	**07:37**	02:05	**04:45**	12H18M
17	🌖	07:02	**07:23**	02:27	**05:34**	12H21M	06:45	**07:04**	02:20	**05:05**	12H19M	07:20	**07:36**	03:11	**05:27**	12H16M
18	🌖	07:03	**07:21**	03:37	**06:03**	12H18M	06:46	**07:02**	03:27	**05:37**	12H16M	07:21	**07:35**	04:15	**06:02**	12H14M
19	🌖	07:04	**07:20**	04:45	**06:28**	12H16M	06:46	**07:01**	04:32	**06:05**	12H15M	07:21	**07:34**	05:16	**06:33**	12H13M
20	🌖	07:05	**07:18**	05:50	**06:50**	12H13M	06:47	**06:59**	05:34	**06:30**	12H12M	07:22	**07:32**	06:14	**07:02**	12H10M
21	🌗	07:05	**07:16**	06:52	**07:11**	12H11M	06:48	**06:58**	06:34	**06:53**	12H10M	07:22	**07:31**	07:10	**07:29**	12H9M
22	🌘	07:06	**07:15**	07:53	**07:32**	12H9M	06:48	**06:56**	07:32	**07:17**	12H8M	07:23	**07:30**	08:05	**07:55**	12H7M
23	🌘	07:07	**07:13**	08:54	**07:53**	12H6M	06:49	**06:55**	08:31	**07:41**	12H6M	07:23	**07:29**	08:59	**08:23**	12H6M
24	🌘	07:08	**07:12**	09:56	**08:18**	12H4M	06:50	**06:54**	09:29	**08:08**	12H4M	07:24	**07:28**	09:54	**08:53**	12H4M
25	🌘	07:09	**07:10**	10:57	**08:45**	12H1M	06:51	**06:52**	10:28	**08:38**	12H1M	07:24	**07:26**	10:50	**09:26**	12H2M
26	🌘	07:10	**07:08**	11:59	**09:18**	11H58M	06:51	**06:51**	11:28	**09:13**	12H0M	07:25	**07:25**	11:47	**10:04**	12H0M
27	🌑	07:11	**07:07**	**01:00**	**09:58**	11H56M	06:52	**06:49**	**12:27**	**09:54**	11H57M	07:25	**07:24**	**12:44**	**10:48**	11H59M
28	🌒	07:12	**07:05**	**01:58**	**10:46**	11H53M	06:53	**06:48**	**01:24**	**10:43**	11H55M	07:26	**07:23**	**01:40**	**11:37**	11H57M
29	🌒	07:13	**07:04**	**02:51**	**11:42**	11H51M	06:54	**06:46**	**02:17**	**11:38**	11H52M	07:26	**07:22**	**02:32**	–	11H56M
30	🌒	07:14	**07:02**	**03:36**	–	11H48M	06:55	**06:45**	**03:03**	–	11H50M	07:27	**07:20**	**03:21**	**12:32**	11H53M

D.	P.	BILLINGS					SALT LAKE CITY					DENVER				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	🌔	06:36	**07:51**	**04:39**	–	13H15M	06:55	**07:59**	**04:28**	12:08	13H4M	06:28	**07:30**	**03:54**	–	13H2M
2	🌔	06:37	**07:49**	**05:28**	12:21	13H12M	06:56	**07:58**	**05:17**	01:01	13H2M	06:29	**07:29**	**04:45**	12:36	13H0M
3	🌔	06:38	**07:48**	**06:07**	01:24	13H10M	06:57	**07:56**	**06:00**	02:02	12H59M	06:30	**07:27**	**05:28**	01:37	12H57M
4	🌔	06:39	**07:46**	**06:38**	02:36	13H7M	06:58	**07:54**	**06:35**	03:10	12H56M	06:31	**07:26**	**06:04**	02:44	12H55M
5	🌔	06:41	**07:44**	**07:03**	03:52	13H3M	06:59	**07:53**	**07:05**	04:22	12H54M	06:32	**07:24**	**06:35**	03:55	12H52M
6	🌔	06:42	**07:42**	**07:25**	05:10	13H0M	07:00	**07:51**	**07:31**	05:35	12H51M	06:33	**07:23**	**07:02**	05:08	12H50M
7	🌕	06:43	**07:40**	**07:44**	06:29	12H57M	07:01	**07:49**	**07:55**	06:49	12H48M	06:34	**07:21**	**07:26**	06:21	12H47M
8	🌖	06:44	**07:38**	**08:03**	07:48	12H54M	07:02	**07:48**	**08:18**	08:03	12H46M	06:35	**07:19**	**07:51**	07:34	12H44M
9	🌖	06:45	**07:36**	**08:22**	09:08	12H51M	07:03	**07:46**	**08:43**	09:18	12H43M	06:36	**07:18**	**08:16**	08:48	12H42M
10	🌖	06:47	**07:34**	**08:45**	10:30	12H47M	07:04	**07:44**	**09:10**	10:35	12H40M	06:37	**07:16**	**08:44**	10:04	12H39M
11	🌖	06:48	**07:32**	**09:12**	11:54	12H44M	07:05	**07:43**	**09:43**	11:53	12H38M	06:38	**07:14**	**09:18**	11:21	12H36M
12	🌖	06:49	**07:30**	**09:48**	**01:18**	12H41M	07:06	**07:41**	**10:23**	**01:12**	12H35M	06:39	**07:13**	**09:59**	**12:39**	12H34M
13	🌖	06:50	**07:28**	**10:35**	**02:37**	12H38M	07:07	**07:39**	**11:14**	**02:28**	12H32M	06:40	**07:11**	**10:49**	**01:54**	12H31M
14	🌗	06:52	**07:26**	**11:35**	**03:46**	12H34M	07:08	**07:38**	–	**03:35**	12H30M	06:40	**07:09**	**11:50**	**03:01**	12H29M
15	🌘	06:53	**07:24**	–	**04:40**	12H31M	07:09	**07:36**	12:14	**04:30**	12H27M	06:41	**07:08**	–	**03:58**	12H27M
16	🌘	06:54	**07:22**	12:45	**05:21**	12H28M	07:10	**07:34**	01:22	**05:14**	12H24M	06:42	**07:06**	12:57	**04:43**	12H24M
17	🌘	06:55	**07:20**	02:01	**05:51**	12H25M	07:11	**07:32**	02:34	**05:49**	12H21M	06:43	**07:05**	02:08	**05:18**	12H22M
18	🌘	06:57	**07:19**	03:17	**06:15**	12H22M	07:12	**07:31**	03:45	**06:17**	12H19M	06:44	**07:03**	03:19	**05:47**	12H19M
19	🌘	06:58	**07:17**	04:30	**06:34**	12H19M	07:13	**07:29**	04:54	**06:40**	12H16M	06:45	**07:01**	04:27	**06:11**	12H16M

D.	P.	BILLINGS					SALT LAKE CITY					DENVER				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
20	🌘	06:59	**07:15**	05:41	**06:50**	12H16M	07:14	**07:27**	06:00	**07:01**	12H13M	06:46	**07:00**	05:32	**06:33**	12H14M
21	🌑	07:00	**07:13**	06:49	**07:06**	12H13M	07:15	**07:26**	07:04	**07:21**	12H11M	06:47	**06:58**	06:35	**06:53**	12H11M
22	🌓	07:02	**07:11**	07:56	**07:21**	12H9M	07:15	**07:24**	08:07	**07:40**	12H9M	06:48	**06:56**	07:37	**07:13**	12H8M
23	🌓	07:03	**07:09**	09:02	**07:38**	12H6M	07:16	**07:22**	09:09	**08:01**	12H6M	06:49	**06:55**	08:39	**07:35**	12H6M
24	🌓	07:04	**07:07**	10:09	**07:57**	12H3M	07:17	**07:21**	10:11	**08:24**	12H4M	06:50	**06:53**	09:40	**07:58**	12H3M
25	🌓	07:05	**07:05**	11:17	**08:20**	12H0M	07:18	**07:19**	11:14	**08:51**	12H1M	06:51	**06:51**	10:43	**08:26**	12H0M
26	🌓	07:07	**07:03**	**12:24**	**08:48**	11H56M	07:19	**07:17**	12:18	**09:23**	11H58M	06:52	**06:50**	11:45	**08:59**	11H58M
27	🌓	07:08	**07:01**	**01:29**	**09:25**	11H53M	07:20	**07:16**	**01:19**	**10:02**	11H56M	06:53	**06:48**	**12:46**	**09:38**	11H55M
28	🌓	07:09	**06:59**	**02:28**	**10:11**	11H50M	07:22	**07:14**	**02:17**	**10:50**	11H52M	06:54	**06:47**	**01:44**	**10:26**	11H53M
29	🌓	07:10	**06:57**	**03:20**	**11:08**	11H47M	07:23	**07:12**	**03:09**	**11:47**	11H49M	06:55	**06:45**	**02:36**	**11:22**	11H50M
30	🌔	07:12	**06:55**	**04:02**	–	11H43M	07:24	**07:11**	**03:54**	–	11H47M	06:56	**06:43**	**03:21**	–	11H47M

D.	P.	PHOENIX					SEATTLE					LOS ANGELES				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	🌔	06:03	**06:53**	**02:59**	–	12H50M	06:29	**07:49**	**04:47**	–	13H20M	06:27	**07:18**	**03:27**	12:01	12H51M
2	🌔	06:03	**06:52**	**03:51**	12:30	12H49M	06:30	**07:47**	**05:35**	12:08	13H17M	06:28	**07:17**	**04:18**	12:54	12H49M
3	🌔	06:04	**06:50**	**04:36**	01:30	12H46M	06:31	**07:45**	**06:12**	01:12	13H14M	06:28	**07:15**	**05:03**	01:53	12H47M
4	🌔	06:05	**06:49**	**05:16**	02:34	12H44M	06:33	**07:43**	**06:41**	02:25	13H10M	06:29	**07:14**	**05:43**	02:58	12H45M
5	🌔	06:05	**06:48**	**05:51**	03:41	12H43M	06:34	**07:41**	**07:04**	03:44	13H7M	06:30	**07:13**	**06:18**	04:05	12H43M
6	🌔	06:06	**06:46**	**06:23**	04:48	12H40M	06:35	**07:39**	**07:24**	05:04	13H4M	06:30	**07:11**	**06:49**	05:13	12H41M
7	○	06:07	**06:45**	**06:53**	05:56	12H38M	06:37	**07:37**	**07:41**	06:25	13H0M	06:31	**07:10**	**07:18**	06:21	12H39M
8	🌖	06:07	**06:44**	**07:22**	07:04	12H37M	06:38	**07:35**	**07:58**	07:46	12H57M	06:32	**07:09**	**07:47**	07:30	12H37M
9	🌖	06:08	**06:42**	**07:52**	08:13	12H34M	06:39	**07:33**	**08:16**	09:09	12H54M	06:32	**07:07**	**08:17**	08:39	12H35M
10	🌖	06:09	**06:41**	**08:26**	09:23	12H32M	06:41	**07:31**	**08:36**	10:33	12H50M	06:33	**07:06**	**08:50**	09:50	12H33M
11	🌖	06:09	**06:40**	**09:04**	10:36	12H31M	06:42	**07:29**	**09:02**	11:59	12H47M	06:34	**07:04**	**09:28**	11:03	12H30M
12	🌖	06:10	**06:38**	**09:49**	11:49	12H28M	06:43	**07:27**	**09:36**	**01:25**	12H44M	06:34	**07:03**	**10:13**	**12:17**	12H29M
13	🌖	06:11	**06:37**	**10:42**	**01:01**	12H26M	06:45	**07:25**	**10:22**	**02:46**	12H40M	06:35	**07:02**	**11:06**	**01:29**	12H27M
14	🌗	06:11	**06:35**	**11:43**	**02:07**	12H24M	06:46	**07:23**	**11:22**	**03:54**	12H37M	06:36	**07:00**	–	**02:35**	12H24M
15	🌘	06:12	**06:34**	–	**03:04**	12H22M	06:47	**07:20**	–	**04:47**	12H33M	06:37	**06:59**	12:07	**03:32**	12H22M
16	🌘	06:13	**06:33**	12:49	**03:52**	12H20M	06:49	**07:18**	12:34	**05:26**	12H29M	06:37	**06:57**	01:13	**04:19**	12H20M
17	🌘	06:13	**06:31**	01:57	**04:31**	12H18M	06:50	**07:16**	01:51	**05:54**	12H26M	06:38	**06:56**	02:21	**04:58**	12H18M
18	🌘	06:14	**06:30**	03:03	**05:04**	12H16M	06:51	**07:14**	03:09	**06:15**	12H23M	06:39	**06:55**	03:28	**05:30**	12H16M
19	🌘	06:15	**06:29**	04:07	**05:33**	12H14M	06:53	**07:12**	04:25	**06:32**	12H19M	06:39	**06:53**	04:32	**05:59**	12H14M
20	🌘	06:15	**06:27**	05:07	**05:59**	12H12M	06:54	**07:10**	05:37	**06:47**	12H16M	06:40	**06:52**	05:33	**06:24**	12H12M
21	🌑	06:16	**06:26**	06:06	**06:23**	12H10M	06:55	**07:08**	06:47	**07:01**	12H13M	06:41	**06:50**	06:31	**06:48**	12H9M
22	🌓	06:17	**06:24**	07:03	**06:48**	12H7M	06:57	**07:06**	07:55	**07:15**	12H9M	06:41	**06:49**	07:29	**07:12**	12H8M
23	🌓	06:17	**06:23**	08:00	**07:13**	12H6M	06:58	**07:04**	09:03	**07:30**	12H6M	06:42	**06:48**	08:27	**07:37**	12H6M
24	🌓	06:18	**06:22**	08:58	**07:41**	12H4M	06:59	**07:02**	10:12	**07:47**	12H3M	06:43	**06:46**	09:24	**08:05**	12H3M
25	🌓	06:19	**06:20**	09:56	**08:12**	12H1M	07:01	**07:00**	11:21	**08:09**	11H59M	06:43	**06:45**	10:23	**08:36**	12H2M
26	🌓	06:19	**06:19**	10:55	**08:48**	12H0M	07:02	**06:58**	**12:30**	**08:36**	11H56M	06:44	**06:43**	11:22	**09:12**	11H59M
27	🌓	06:20	**06:18**	11:53	**09:31**	11H58M	07:03	**06:56**	**01:36**	**09:11**	11H53M	06:45	**06:42**	**12:21**	**09:54**	11H57M
28	🌓	06:21	**06:16**	**12:49**	**10:20**	11H55M	07:05	**06:54**	**02:36**	**09:58**	11H49M	06:46	**06:41**	**01:17**	**10:43**	11H55M
29	🌓	06:22	**06:15**	**01:42**	**11:16**	11H53M	07:06	**06:52**	**03:28**	**10:56**	11H46M	06:46	**06:39**	**02:09**	**11:39**	11H53M
30	🌔	06:22	**06:13**	**02:29**	–	11H51M	07:08	**06:50**	**04:08**	–	11H42M	06:47	**06:38**	**02:56**	–	11H51M

October

Pacific Time
Mountain Time
Central Time
Eastern Time
Seattle
Billings
Minneapolis
Chicago
Salt Lake City
Denver
Kansas City
New York
Richmond
Los Angeles
Phoenix
Memphis
Atlanta
San Antonio
Orlando

Worth watching: In October, the moon will approach Saturn on the 5th and Jupiter on the 13th. The first of three supermoons in 2025 will be visible on the 7th, as a slightly larger and brighter full moon. On the 9th, the moon will approach the star cluster of the Pleiades, also known as the Seven Sisters. The Orionids meteor shower will peak on the 20th, radiating from the constellation Orion. This will be an excellent year to observe the Orionids, since the moon will be absent all night during the dates around the peak, ensuring dark skies.

D. = Day of the Month P. = Phase of the Moon LOD = Length of Day *Bold indicates PM time

D.	P.	NEW YORK CITY					RICHMOND					ATLANTA				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	◐	06:53	**06:38**	**03:56**	12:12	11H45M	07:06	**06:52**	**04:00**	12:38	11H46M	07:32	**07:21**	**04:17**	01:20	11H49M
2	◐	06:54	**06:36**	**04:28**	01:21	11H42M	07:06	**06:51**	**04:34**	01:45	11H45M	07:33	**07:20**	**04:54**	02:24	11H47M
3	◐	06:55	**06:34**	**04:56**	02:32	11H39M	07:07	**06:49**	**05:04**	02:53	11H42M	07:34	**07:19**	**05:27**	03:30	11H45M
4	◐	06:56	**06:33**	**05:21**	03:44	11H37M	07:08	**06:48**	**05:32**	04:03	11H40M	07:34	**07:17**	**05:57**	04:37	11H43M
5	◐	06:57	**06:31**	**05:45**	04:58	11H34M	07:09	**06:46**	**05:58**	05:14	11H37M	07:35	**07:16**	**06:26**	05:45	11H41M
6	◐	06:58	**06:29**	**06:09**	06:13	11H31M	07:10	**06:45**	**06:25**	06:26	11H35M	07:36	**07:15**	**06:56**	06:54	11H39M
7	○	06:59	**06:28**	**06:35**	07:30	11H29M	07:11	**06:43**	**06:54**	07:40	11H32M	07:37	**07:13**	**07:28**	08:05	11H36M
8	◑	07:00	**06:26**	**07:06**	08:50	11H26M	07:12	**06:42**	**07:28**	08:58	11H30M	07:37	**07:12**	**08:05**	09:19	11H35M
9	◑	07:01	**06:25**	**07:43**	10:12	11H24M	07:13	**06:41**	**08:08**	10:17	11H28M	07:38	**07:11**	**08:48**	10:36	11H33M
10	◑	07:02	**06:23**	**08:30**	11:32	11H21M	07:14	**06:39**	**08:57**	11:35	11H25M	07:39	**07:10**	**09:39**	11:51	11H31M
11	◑	07:03	**06:21**	**09:28**	**12:46**	11H18M	07:14	**06:38**	**09:56**	**12:47**	11H24M	07:40	**07:08**	**10:39**	**01:02**	11H28M
12	◑	07:04	**06:20**	**10:35**	**01:49**	11H16M	07:15	**06:36**	**11:02**	**01:50**	11H21M	07:40	**07:07**	**11:45**	**02:05**	11H27M
13	◑	07:05	**06:18**	**11:46**	**02:38**	11H13M	07:16	**06:35**	–	**02:41**	11H19M	07:41	**07:06**	–	**02:57**	11H25M
14	◖	07:06	**06:17**	–	**03:17**	11H11M	07:17	**06:33**	12:12	**03:21**	11H16M	07:42	**07:04**	12:53	**03:39**	11H22M
15	◖	07:08	**06:15**	12:58	**03:47**	11H7M	07:18	**06:32**	01:21	**03:54**	11H14M	07:43	**07:03**	02:00	**04:14**	11H20M
16	◖	07:09	**06:14**	02:08	**04:12**	11H5M	07:19	**06:31**	02:28	**04:21**	11H12M	07:44	**07:02**	03:04	**04:44**	11H18M
17	◖	07:10	**06:12**	03:14	**04:33**	11H2M	07:20	**06:29**	03:32	**04:45**	11H9M	07:44	**07:01**	04:05	**05:10**	11H17M
18	◖	07:11	**06:11**	04:18	**04:53**	11H0M	07:21	**06:28**	04:33	**05:07**	11H7M	07:45	**07:00**	05:04	**05:35**	11H15M
19	◖	07:12	**06:09**	05:20	**05:12**	10H57M	07:22	**06:27**	05:33	**05:28**	11H5M	07:46	**06:58**	06:01	**05:59**	11H12M
20	◖	07:13	**06:08**	06:21	**05:33**	10H55M	07:23	**06:25**	06:32	**05:51**	11H2M	07:47	**06:57**	06:58	**06:23**	11H10M
21	●	07:14	**06:06**	07:23	**05:54**	10H52M	07:24	**06:24**	07:32	**06:15**	11H0M	07:48	**06:56**	07:55	**06:50**	11H8M
22	◗	07:15	**06:05**	08:26	**06:19**	10H50M	07:25	**06:23**	08:32	**06:42**	10H58M	07:48	**06:55**	08:53	**07:19**	11H7M
23	◗	07:16	**06:04**	09:29	**06:49**	10H48M	07:26	**06:22**	09:33	**07:14**	10H56M	07:49	**06:54**	09:52	**07:53**	11H5M
24	◗	07:18	**06:02**	10:32	**07:25**	10H44M	07:27	**06:20**	10:34	**07:51**	10H53M	07:50	**06:53**	10:51	**08:33**	11H3M
25	◗	07:19	**06:01**	11:31	**08:09**	10H42M	07:28	**06:19**	11:32	**08:36**	10H51M	07:51	**06:52**	11:48	**09:19**	11H1M
26	◗	07:20	**06:00**	**12:26**	**09:01**	10H40M	07:29	**06:18**	**12:26**	**09:28**	10H49M	07:52	**06:51**	**12:41**	**10:11**	10H59M
27	◗	07:21	**05:58**	**01:13**	**10:00**	10H37M	07:30	**06:17**	**01:14**	**10:27**	10H47M	07:53	**06:50**	**01:30**	**11:09**	10H57M
28	◗	07:22	**05:57**	**01:53**	**11:05**	10H35M	07:31	**06:16**	**01:56**	**11:30**	10H45M	07:54	**06:49**	**02:13**	–	10H55M
29	◗	07:23	**05:56**	**02:26**	–	10H33M	07:32	**06:14**	**02:31**	–	10H42M	07:54	**06:48**	**02:50**	12:10	10H54M
30	◗	07:24	**05:54**	**02:55**	12:13	10H30M	07:33	**06:13**	**03:02**	12:36	10H40M	07:55	**06:47**	**03:23**	01:14	10H52M
31	◗	07:26	**05:53**	**03:20**	01:22	10H27M	07:34	**06:12**	**03:30**	01:43	10H38M	07:56	**06:46**	**03:54**	02:18	10H50M

D.	P.	ORLANDO					MINNEAPOLIS					CHICAGO				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	◐	07:19	**07:11**	**03:51**	01:23	11H52M	07:12	**06:53**	**04:31**	12:15	11H41M	06:48	**06:32**	**03:56**	12:05	11H44M
2	◐	07:19	**07:10**	**04:31**	02:24	11H51M	07:13	**06:51**	**04:59**	01:27	11H38M	06:49	**06:30**	**04:27**	01:14	11H41M
3	◐	07:20	**07:09**	**05:07**	03:27	11H49M	07:14	**06:49**	**05:23**	02:42	11H35M	06:50	**06:28**	**04:53**	02:26	11H38M
4	◐	07:20	**07:07**	**05:40**	04:31	11H47M	07:15	**06:47**	**05:44**	03:58	11H32M	06:51	**06:26**	**05:17**	03:40	11H35M
5	◐	07:21	**07:06**	**06:13**	05:35	11H45M	07:17	**06:45**	**06:03**	05:16	11H28M	06:52	**06:25**	**05:40**	04:54	11H33M
6	◐	07:21	**07:05**	**06:47**	06:40	11H44M	07:18	**06:44**	**06:23**	06:35	11H26M	06:53	**06:23**	**06:03**	06:10	11H30M
7	○	07:22	**07:04**	**07:23**	07:48	11H42M	07:19	**06:42**	**06:46**	07:57	11H23M	06:54	**06:21**	**06:29**	07:29	11H27M
8	◑	07:22	**07:03**	**08:03**	08:58	11H41M	07:20	**06:40**	**07:13**	09:22	11H20M	06:55	**06:20**	**06:58**	08:50	11H25M
9	◑	07:23	**07:02**	**08:49**	10:10	11H39M	07:22	**06:38**	**07:47**	10:48	11H16M	06:57	**06:18**	**07:35**	10:13	11H21M
10	◑	07:24	**07:01**	**09:43**	11:23	11H37M	07:23	**06:36**	**08:31**	**12:12**	11H13M	06:58	**06:16**	**08:22**	11:35	11H18M
11	◑	07:24	**07:00**	**10:43**	**12:33**	11H36M	07:24	**06:35**	**09:28**	**01:28**	11H11M	06:59	**06:15**	**09:19**	**12:49**	11H16M
12	◑	07:25	**06:59**	**11:48**	**01:36**	11H34M	07:25	**06:33**	**10:36**	**02:29**	11H8M	07:00	**06:13**	**10:27**	**01:50**	11H13M
13	◑	07:25	**06:58**	–	**02:30**	11H33M	07:27	**06:31**	**11:50**	**03:15**	11H4M	07:01	**06:12**	**11:39**	**02:39**	11H11M
14	◑	07:26	**06:57**	12:54	**03:15**	11H31M	07:28	**06:29**	–	**03:50**	11H1M	07:02	**06:10**	–	**03:16**	11H8M
15	◑	07:27	**06:55**	01:59	**03:53**	11H28M	07:29	**06:28**	01:06	**04:16**	10H59M	07:03	**06:08**	12:52	**03:45**	11H5M
16	◑	07:27	**06:54**	03:00	**04:25**	11H27M	07:31	**06:26**	02:19	**04:37**	10H55M	07:04	**06:07**	02:02	**04:09**	11H3M
17	◑	07:28	**06:53**	03:58	**04:55**	11H25M	07:32	**06:24**	03:29	**04:55**	10H52M	07:06	**06:05**	03:09	**04:30**	10H59M
18	◑	07:28	**06:52**	04:53	**05:22**	11H24M	07:33	**06:22**	04:36	**05:11**	10H49M	07:07	**06:04**	04:14	**04:48**	10H57M
19	◑	07:29	**06:51**	05:47	**05:49**	11H22M	07:35	**06:21**	05:42	**05:27**	10H46M	07:08	**06:02**	05:17	**05:07**	10H54M
20	◑	07:30	**06:51**	06:41	**06:17**	11H21M	07:36	**06:19**	06:47	**05:44**	10H43M	07:09	**06:01**	06:19	**05:26**	10H52M
21	●	07:30	**06:50**	07:35	**06:46**	11H20M	07:37	**06:17**	07:52	**06:03**	10H40M	07:10	**05:59**	07:22	**05:47**	10H49M
22	◐	07:31	**06:49**	08:30	**07:19**	11H18M	07:38	**06:16**	08:59	**06:25**	10H38M	07:11	**05:58**	08:26	**06:11**	10H47M
23	◐	07:32	**06:48**	09:26	**07:55**	11H16M	07:40	**06:14**	10:05	**06:52**	10H34M	07:13	**05:56**	09:30	**06:41**	10H43M
24	◐	07:32	**06:47**	10:23	**08:36**	11H15M	07:41	**06:13**	11:10	**07:25**	10H32M	07:14	**05:55**	10:33	**07:16**	10H41M
25	◐	07:33	**06:46**	11:19	**09:23**	11H13M	07:43	**06:11**	**12:12**	**08:08**	10H28M	07:15	**05:54**	11:33	**08:00**	10H39M
26	◐	07:34	**06:45**	**12:12**	**10:15**	11H11M	07:44	**06:10**	**01:06**	**09:00**	10H26M	07:16	**05:52**	**12:27**	**08:52**	10H36M
27	◐	07:34	**06:44**	**01:01**	**11:12**	11H10M	07:45	**06:08**	**01:52**	**10:02**	10H23M	07:17	**05:51**	**01:14**	**09:52**	10H34M
28	◐	07:35	**06:43**	**01:46**	–	11H8M	07:47	**06:06**	**02:29**	**11:10**	10H19M	07:19	**05:49**	**01:53**	**10:58**	10H30M
29	◐	07:36	**06:43**	**02:26**	12:11	11H7M	07:48	**06:05**	**02:59**	–	10H17M	07:20	**05:48**	**02:25**	–	10H28M
30	◐	07:36	**06:42**	**03:02**	01:12	11H6M	07:49	**06:04**	**03:23**	12:21	10H15M	07:21	**05:47**	**02:53**	12:07	10H26M
31	◐	07:37	**06:41**	**03:36**	02:13	11H4M	07:51	**06:02**	**03:45**	01:35	10H11M	07:22	**05:46**	**03:17**	01:17	10H24M

D.	P.	KANSAS CITY					MEMPHIS					SAN ANTONIO				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	◐	07:15	**07:00**	**04:15**	12:45	11H45M	06:55	**06:44**	**03:44**	12:39	11H49M	07:27	**07:19**	**04:04**	01:32	11H52M
2	◐	07:16	**06:59**	**04:48**	01:52	11H43M	06:56	**06:42**	**04:20**	01:44	11H46M	07:28	**07:18**	**04:43**	02:34	11H50M
3	◐	07:17	**06:57**	**05:17**	03:02	11H40M	06:57	**06:41**	**04:52**	02:51	11H44M	07:29	**07:17**	**05:18**	03:37	11H48M
4	◐	07:18	**06:56**	**05:43**	04:13	11H38M	06:58	**06:39**	**05:21**	03:59	11H41M	07:29	**07:16**	**05:51**	04:41	11H47M
5	◐	07:18	**06:54**	**06:08**	05:25	11H36M	06:58	**06:38**	**05:49**	05:08	11H40M	07:30	**07:14**	**06:23**	05:46	11H44M
6	◐	07:19	**06:53**	**06:34**	06:39	11H34M	06:59	**06:37**	**06:18**	06:18	11H38M	07:30	**07:13**	**06:56**	06:52	11H43M
7	○	07:20	**06:51**	**07:02**	07:55	11H31M	07:00	**06:35**	**06:49**	07:31	11H35M	07:31	**07:12**	**07:32**	08:00	11H41M
8	◑	07:21	**06:49**	**07:34**	09:13	11H28M	07:01	**06:34**	**07:25**	08:46	11H33M	07:31	**07:11**	**08:12**	09:11	11H40M
9	◑	07:22	**06:48**	**08:14**	10:34	11H26M	07:02	**06:33**	**08:07**	10:03	11H31M	07:32	**07:10**	**08:58**	10:24	11H38M
10	◑	07:23	**06:46**	**09:02**	11:53	11H23M	07:02	**06:31**	**08:58**	11:20	11H29M	07:33	**07:09**	**09:51**	11:37	11H36M
11	◑	07:24	**06:45**	**10:01**	**01:05**	11H21M	07:03	**06:30**	**09:57**	**12:31**	11H27M	07:33	**07:08**	**10:52**	**12:47**	11H35M

October

D. = Day of the Month P. = Phase of the Moon LOD = Length of Day *Bold indicates PM time

D.	P.	KANSAS CITY					MEMPHIS					SAN ANTONIO				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
12	◑	07:25	**06:43**	**11:08**	**02:07**	11H18M	07:04	**06:29**	**11:03**	**01:33**	11H25M	07:34	**07:06**	**11:57**	**01:50**	11H32M
13	◑	07:26	**06:42**	–	**02:57**	11H16M	07:05	**06:27**	–	**02:25**	11H22M	07:34	**07:05**	–	**02:43**	11H31M
14	◕	07:27	**06:41**	12:18	**03:36**	11H14M	07:06	**06:26**	12:12	**03:06**	11H20M	07:35	**07:04**	01:04	**03:27**	11H29M
15	◕	07:28	**06:39**	01:29	**04:07**	11H11M	07:07	**06:25**	01:20	**03:40**	11H18M	07:36	**07:03**	02:08	**04:04**	11H27M
16	◕	07:29	**06:38**	02:37	**04:33**	11H9M	07:07	**06:23**	02:25	**04:09**	11H16M	07:36	**07:02**	03:10	**04:36**	11H26M
17	◕	07:30	**06:36**	03:42	**04:56**	11H6M	07:08	**06:22**	03:27	**04:34**	11H14M	07:37	**07:01**	04:08	**05:05**	11H24M
18	◕	07:31	**06:35**	04:44	**05:16**	11H4M	07:09	**06:21**	04:27	**04:58**	11H12M	07:38	**07:00**	05:04	**05:32**	11H22M
19	◕	07:32	**06:33**	05:45	**05:37**	11H1M	07:10	**06:20**	05:25	**05:21**	11H10M	07:38	**06:59**	05:59	**05:59**	11H21M
20	◕	07:33	**06:32**	06:45	**05:58**	10H59M	07:11	**06:18**	06:23	**05:45**	11H7M	07:39	**06:58**	06:53	**06:26**	11H19M
21	●	07:34	**06:31**	07:46	**06:21**	10H57M	07:12	**06:17**	07:21	**06:10**	11H5M	07:40	**06:57**	07:47	**06:55**	11H17M
22	◕	07:36	**06:29**	08:48	**06:48**	10H53M	07:13	**06:16**	08:20	**06:39**	11H3M	07:40	**06:56**	08:43	**07:27**	11H16M
23	◕	07:37	**06:28**	09:50	**07:19**	10H51M	07:14	**06:15**	09:19	**07:13**	11H1M	07:41	**06:55**	09:39	**08:03**	11H14M
24	◕	07:38	**06:27**	10:51	**07:56**	10H49M	07:14	**06:14**	10:19	**07:52**	11H0M	07:42	**06:54**	10:36	**08:44**	11H12M
25	◕	07:39	**06:25**	11:50	**08:41**	10H46M	07:15	**06:13**	11:16	**08:37**	10H58M	07:42	**06:53**	11:32	**09:31**	11H11M
26	◕	07:40	**06:24**	**12:44**	**09:33**	10H44M	07:16	**06:12**	**12:10**	**09:30**	10H56M	07:43	**06:52**	**12:25**	**10:24**	11H9M
27	◕	07:41	**06:23**	**01:31**	**10:33**	10H42M	07:17	**06:10**	**12:58**	**10:28**	10H53M	07:44	**06:52**	**01:15**	**11:21**	11H8M
28	◕	07:42	**06:22**	**02:12**	**11:37**	10H40M	07:18	**06:09**	**01:40**	**11:30**	10H51M	07:44	**06:51**	**01:59**	–	11H7M
29	◐	07:43	**06:20**	**02:46**	–	10H37M	07:19	**06:08**	**02:17**	–	10H49M	07:45	**06:50**	**02:38**	12:20	11H5M
30	◐	07:44	**06:19**	**03:15**	12:43	10H35M	07:20	**06:07**	**02:49**	12:34	10H47M	07:46	**06:49**	**03:14**	01:22	11H3M
31	◐	07:45	**06:18**	**03:42**	01:52	10H33M	07:21	**06:06**	**03:18**	01:39	10H45M	07:47	**06:48**	**03:47**	02:23	11H1M

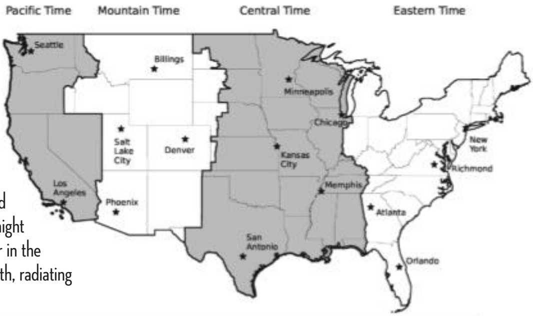
D.	P.	BILLINGS					SALT LAKE CITY					DENVER				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	◕	07:13	**06:53**	**04:36**	12:15	11H40M	07:25	**07:09**	**04:31**	12:51	11H44M	06:57	**06:42**	**04:00**	12:26	11H45M
2	◕	07:14	**06:51**	**05:03**	01:28	11H37M	07:26	**07:07**	**05:03**	01:59	11H41M	06:58	**06:40**	**04:32**	01:34	11H42M
3	◕	07:15	**06:50**	**05:26**	02:44	11H35M	07:27	**07:06**	**05:30**	03:11	11H39M	06:58	**06:38**	**05:00**	02:44	11H40M
4	◕	07:17	**06:48**	**05:46**	04:01	11H31M	07:28	**07:04**	**05:55**	04:23	11H36M	06:59	**06:37**	**05:26**	03:56	11H38M
5	◕	07:18	**06:46**	**06:05**	05:20	11H28M	07:29	**07:02**	**06:19**	05:37	11H33M	07:00	**06:35**	**05:50**	05:08	11H35M
6	◐	07:19	**06:44**	**06:25**	06:40	11H25M	07:30	**07:01**	**06:43**	06:52	11H31M	07:01	**06:34**	**06:16**	06:23	11H33M
7	◐	07:21	**06:42**	**06:46**	08:03	11H21M	07:31	**06:59**	**07:10**	08:10	11H28M	07:02	**06:32**	**06:43**	07:39	11H30M
8	◐	07:22	**06:40**	**07:12**	09:29	11H18M	07:32	**06:57**	**07:41**	09:30	11H25M	07:03	**06:31**	**07:15**	08:59	11H28M
9	◐	07:23	**06:38**	**07:46**	10:56	11H15M	07:33	**06:56**	**08:19**	10:52	11H23M	07:04	**06:29**	**07:54**	10:20	11H25M
10	◐	07:25	**06:36**	**08:30**	**12:21**	11H11M	07:34	06**:54**	**09:07**	**12:12**	11H20M	07:05	**06:28**	**08:43**	11:39	11H23M
11	◐	07:26	**06:35**	**09:27**	**01:36**	11H9M	07:35	**06:53**	**10:06**	**01:25**	11H18M	07:06	**06:26**	**09:42**	**12:52**	11H20M
12	◐	07:27	**06:33**	**10:35**	**02:36**	11H6M	07:36	**06:51**	**11:13**	**02:26**	11H15M	07:07	**06:24**	**10:49**	**01:53**	11H17M
13	◐	07:29	**06:31**	**11:51**	**03:22**	11H2M	07:37	**06:50**	–	**03:14**	11H13M	07:08	**06:23**	–	**02:42**	11H15M
14	○	07:30	**06:29**	–	**03:55**	10H59M	07:38	**06:48**	12:25	**03:52**	11H10M	07:10	**06:21**	12:00	**03:20**	11H11M
15	◑	07:31	**06:27**	01:07	**04:20**	10H56M	07:39	**06:47**	01:37	**04:21**	11H8M	07:11	**06:20**	01:11	**03:51**	11H9M
16	◑	07:33	**06:26**	02:21	**04:40**	10H53M	07:40	**06:45**	02:46	**04:46**	11H5M	07:12	**06:19**	02:19	**04:16**	11H7M
17	◑	07:34	**06:24**	03:31	**04:57**	10H50M	07:41	**06:44**	03:52	**05:07**	11H3M	07:13	**06:17**	03:25	**04:38**	11H4M
18	◑	07:35	**06:22**	04:39	**05:13**	10H47M	07:43	**06:42**	04:56	**05:27**	10H59M	07:14	**06:16**	04:27	**04:59**	11H2M
19	◑	07:37	**06:20**	05:46	**05:28**	10H43M	07:44	**06:41**	05:58	**05:46**	10H57M	07:15	**06:14**	05:29	**05:19**	10H59M
20	◑	07:38	**06:19**	06:52	**05:45**	10H41M	07:45	**06:39**	06:59	**06:06**	10H54M	07:16	**06:13**	06:29	**05:40**	10H57M

D.	P.	BILLINGS					SALT LAKE CITY					DENVER				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
21	🌑	07:39	**06:17**	07:58	**06:03**	10H38M	07:46	**06:38**	08:01	**06:28**	10H52M	07:17	**06:11**	07:31	**06:02**	10H54M
22	🌒	07:41	**06:15**	09:05	**06:24**	10H34M	07:47	**06:36**	09:04	**06:54**	10H49M	07:18	**06:10**	08:33	**06:28**	10H52M
23	🌒	07:42	**06:14**	10:12	**06:50**	10H32M	07:48	**06:35**	10:07	**07:24**	10H47M	07:19	**06:09**	09:35	**06:59**	10H50M
24	🌒	07:44	**06:12**	11:18	**07:24**	10H28M	07:49	**06:34**	11:10	**08:01**	10H45M	07:20	**06:07**	10:37	**07:36**	10H47M
25	🌒	07:45	**06:10**	**12:19**	**08:07**	10H25M	07:50	**06:32**	**12:09**	**08:45**	10H42M	07:21	**06:06**	11:36	**08:21**	10H45M
26	🌒	07:46	**06:09**	**01:13**	**08:59**	10H23M	07:52	**06:31**	**01:03**	**09:38**	10H39M	07:22	**06:05**	**12:30**	**09:14**	10H43M
27	🌒	07:48	**06:07**	**01:59**	**10:01**	10H19M	07:53	**06:30**	**01:49**	**10:38**	10H37M	07:23	**06:04**	**01:17**	**10:13**	10H41M
28	🌒	07:49	**06:06**	**02:35**	**11:10**	10H17M	07:54	**06:28**	**02:28**	**11:43**	10H34M	07:25	**06:02**	**01:56**	**11:18**	10H37M
29	🌓	07:50	**06:04**	**03:04**	–	10H14M	07:55	**06:27**	**03:01**	–	10H32M	07:26	**06:01**	**02:30**	–	10H35M
30	🌔	07:52	**06:03**	**03:27**	12:23	10H11M	07:56	**06:26**	**03:29**	12:52	10H30M	07:27	**06:00**	**02:59**	12:25	10H33M
31	🌔	07:53	**06:01**	**03:48**	01:37	10H8M	07:57	**06:24**	**03:54**	02:01	10H27M	07:28	**05:59**	**03:25**	01:34	10H31M

D.	P.	PHOENIX					SEATTLE					LOS ANGELES				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	🌔	06:23	**06:12**	**03:10**	12:16	11H49M	07:09	**06:48**	**04:40**	12:04	11H39M	06:48	**06:37**	**03:37**	12:40	11H49M
2	🌔	06:24	**06:11**	**03:47**	01:21	11H47M	07:10	**06:46**	**05:06**	01:18	11H36M	06:49	**06:35**	**04:13**	01:45	11H46M
3	🌔	06:24	**06:09**	**04:19**	02:27	11H45M	07:12	**06:44**	**05:26**	02:37	11H32M	06:49	**06:34**	**04:45**	02:51	11H45M
4	🌔	06:25	**06:08**	**04:49**	03:34	11H43M	07:13	**06:42**	**05:44**	03:56	11H29M	06:50	**06:33**	**05:15**	03:59	11H43M
5	🌔	06:26	**06:07**	**05:19**	04:41	11H41M	07:15	**06:40**	**06:01**	05:17	11H25M	06:51	**06:31**	**05:44**	05:07	11H40M
6	🌔	06:26	**06:05**	**05:49**	05:50	11H39M	07:16	**06:38**	**06:19**	06:40	11H22M	06:51	**06:30**	**06:14**	06:16	11H39M
7	🌕	06:27	**06:04**	**06:22**	07:01	11H37M	07:17	**06:36**	**06:38**	08:05	11H19M	06:52	**06:29**	**06:46**	07:28	11H37M
8	🌖	06:28	**06:03**	**06:59**	08:15	11H35M	07:19	**06:34**	**07:03**	09:33	11H15M	06:53	**06:27**	**07:23**	08:43	11H34M
9	🌖	06:29	**06:02**	**07:43**	09:31	11H33M	07:20	**06:32**	**07:34**	11:03	11H12M	06:54	**06:26**	**08:07**	09:59	11H32M
10	🌖	06:29	**06:00**	**08:35**	10:47	11H31M	07:22	**06:30**	**08:17**	**12:29**	11H8M	06:55	**06:25**	**08:59**	11:15	11H30M
11	🌖	06:30	**05:59**	**09:35**	11:57	11H29M	07:23	**06:28**	**09:14**	**01:44**	11H5M	06:55	**06:23**	**09:59**	**12:25**	11H28M
12	🌖	06:31	**05:58**	**10:41**	**12:59**	11H27M	07:24	**06:26**	**10:24**	**02:44**	11H2M	06:56	**06:22**	**11:05**	**01:27**	11H26M
13	🌗	06:32	**05:57**	**11:50**	**01:50**	11H25M	07:26	**06:24**	**11:41**	**03:27**	10H58M	06:57	**06:21**	–	**02:18**	11H24M
14	🌘	06:32	**05:55**	–	**02:32**	11H23M	07:27	**06:22**	–	**03:58**	10H55M	06:58	**06:20**	12:14	**02:59**	11H22M
15	🌘	06:33	**05:54**	12:56	**03:07**	11H21M	07:29	**06:20**	12:59	**04:21**	10H51M	06:58	**06:18**	01:21	**03:33**	11H20M
16	🌘	06:34	**05:53**	02:00	**03:37**	11H19M	07:30	**06:19**	02:14	**04:40**	10H49M	06:59	**06:17**	02:25	**04:02**	11H18M
17	🌘	06:35	**05:52**	03:01	**04:03**	11H17M	07:32	**06:17**	03:27	**04:55**	10H45M	07:00	**06:16**	03:26	**04:28**	11H16M
18	🌘	06:36	**05:51**	03:59	**04:27**	11H15M	07:33	**06:15**	04:36	**05:09**	10H42M	07:01	**06:15**	04:25	**04:52**	11H14M
19	🌘	06:36	**05:49**	04:56	**04:52**	11H13M	07:35	**06:13**	05:44	**05:23**	10H38M	07:02	**06:13**	05:22	**05:16**	11H11M
20	🌘	06:37	**05:48**	05:53	**05:16**	11H11M	07:36	**06:11**	06:52	**05:37**	10H35M	07:03	**06:12**	06:19	**05:41**	11H9M
21	🌑	06:38	**05:47**	06:50	**05:43**	11H9M	07:38	**06:09**	08:00	**05:54**	10H31M	07:03	**06:11**	07:16	**06:07**	11H8M
22	🌒	06:39	**05:46**	07:48	**06:13**	11H7M	07:39	**06:08**	09:09	**06:14**	10H29M	07:04	**06:10**	08:14	**06:37**	11H6M
23	🌒	06:40	**05:45**	08:46	**06:48**	11H5M	07:41	**06:06**	10:18	**06:39**	10H25M	07:05	**06:09**	09:13	**07:11**	11H4M
24	🌒	06:41	**05:44**	09:45	**07:28**	11H3M	07:42	**06:04**	11:25	**07:11**	10H22M	07:06	**06:08**	10:12	**07:51**	11H2M
25	🌒	06:41	**05:43**	10:42	**08:14**	11H2M	07:44	**06:02**	12:27	**07:53**	10H18M	07:07	**06:07**	11:09	08:38	11H0M
26	🌒	06:42	**05:42**	11:35	**09:07**	11H0M	07:45	**06:01**	**01:21**	**08:46**	10H16M	07:08	**06:06**	**12:03**	**09:31**	10H58M
27	🌒	06:43	**05:41**	**12:23**	**10:05**	10H58M	07:47	**05:59**	**02:05**	**09:50**	10H12M	07:09	**06:05**	**12:51**	**10:29**	10H56M
28	🌒	06:44	**05:40**	**01:06**	**11:07**	10H56M	07:48	**05:57**	**02:40**	**11:00**	10H9M	07:09	**06:04**	**01:33**	**11:31**	10H55M
29	🌓	06:45	**05:39**	**01:43**	–	10H54M	07:50	**05:56**	**03:06**	–	10H6M	07:10	**06:03**	**02:10**	–	10H53M
30	🌔	06:46	**05:38**	**02:16**	12:10	10H52M	07:51	**05:54**	**03:28**	12:15	10H3M	07:11	**06:02**	**02:42**	12:34	10H51M
31	🌔	06:47	**05:37**	**02:46**	01:14	10H50M	07:53	**05:53**	**03:47**	01:31	10H0M	07:12	**06:01**	**03:12**	01:39	10H49M

November

Worth watching: November begins with Mercury reaching the highest altitude of its final apparition of the year on the 1st. Try to look for the planet in the evening immediately after sunset, where you may see it as a faint point close to the distinctive red dot of Mars. Look forward to a supermoon on the night of the 5th, the second supermoon of the year. Later in the month, the Leonids meteor shower peaks on the 18th, radiating from the constellation Leo.



D. = Day of the Month P. = Phase of the Moon LOD = Length of Day *Bold indicates PM time

D.	P.	NEW YORK CITY					RICHMOND					ATLANTA				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	🌔	07:27	**05:52**	**03:44**	02:33	10H25M	07:35	**06:11**	**03:56**	02:51	10H36M	07:57	**06:45**	**04:22**	03:23	10H48M
2	🌔	06:28	**04:51**	**03:07**	02:45	10H23M	06:36	**05:10**	**03:22**	03:00	10H34M	06:58	**05:44**	**03:51**	03:30	10H46M
3	🌔	06:29	**04:50**	**03:32**	04:00	10H21M	06:37	**05:09**	**03:50**	04:12	10H32M	06:59	**05:43**	**04:22**	04:39	10H44M
4	🌔	06:30	**04:49**	**04:01**	05:18	10H19M	06:38	**05:08**	**04:21**	05:28	10H30M	07:00	**05:42**	**04:56**	05:51	10H42M
5	🌕	06:31	**04:47**	**04:35**	06:40	10H16M	06:39	**05:07**	**04:58**	06:47	10H28M	07:01	**05:41**	**05:37**	07:07	10H40M
6	🌖	06:33	**04:46**	**05:19**	08:04	10H13M	06:40	**05:06**	**05:44**	08:08	10H26M	07:02	**05:41**	**06:25**	08:25	10H39M
7	🌖	06:34	**04:45**	**06:14**	09:24	10H11M	06:41	**05:05**	**06:41**	09:26	10H24M	07:02	**05:40**	**07:24**	09:42	10H38M
8	🌖	06:35	**04:44**	**07:19**	10:35	10H9M	06:42	**05:04**	**07:47**	10:36	10H22M	07:03	**05:39**	**08:30**	10:51	10H36M
9	🌖	06:36	**04:43**	**08:32**	11:31	10H7M	06:43	**05:03**	**08:58**	11:33	10H20M	07:04	**05:38**	**09:40**	11:49	10H34M
10	🌖	06:37	**04:42**	**09:47**	**12:15**	10H5M	06:44	**05:02**	**10:10**	**12:19**	10H18M	07:05	**05:37**	**10:50**	**12:37**	10H32M
11	🌖	06:39	**04:41**	**10:58**	**12:49**	10H2M	06:46	**05:02**	**11:20**	**12:55**	10H16M	07:06	**05:37**	**11:56**	**01:15**	10H31M
12	🌗	06:40	**04:40**	–	**01:16**	10H0M	06:47	**05:01**	–	**01:24**	10H14M	07:07	**05:36**	–	**01:47**	10H29M
13	🌘	06:41	**04:39**	12:06	**01:39**	9H58M	06:48	**05:00**	12:25	**01:49**	10H12M	07:08	**05:35**	12:59	**02:14**	10H27M
14	🌘	06:42	**04:39**	01:11	**01:59**	9H57M	06:49	**04:59**	01:27	**02:12**	10H10M	07:09	**05:35**	01:59	**02:39**	10H26M
15	🌘	06:43	**04:38**	02:13	**02:18**	9H55M	06:50	**04:59**	02:27	**02:34**	10H9M	07:10	**05:34**	02:56	**03:03**	10H24M
16	🌘	06:44	**04:37**	03:15	**02:38**	9H53M	06:51	**04:58**	03:26	**02:56**	10H7M	07:11	**05:34**	03:52	**03:28**	10H23M
17	🌘	06:46	**04:36**	04:16	**02:59**	9H50M	06:52	**04:57**	04:25	**03:19**	10H5M	07:12	**05:33**	04:49	**03:53**	10H21M
18	🌘	06:47	**04:36**	05:18	**03:23**	9H49M	06:53	**04:57**	05:25	**03:45**	10H4M	07:13	**05:33**	05:46	**04:22**	10H20M
19	🌘	06:48	**04:35**	06:21	**03:52**	9H47M	06:54	**04:56**	06:26	**04:15**	10H2M	07:14	**05:32**	06:45	**04:54**	10H18M
20	🌑	06:49	**04:34**	07:23	**04:26**	9H45M	06:55	**04:56**	07:27	**04:51**	10H1M	07:15	**05:32**	07:44	**05:32**	10H17M
21	🌒	06:50	**04:34**	08:24	**05:07**	9H44M	06:56	**04:55**	08:26	**05:34**	9H59M	07:15	**05:31**	08:41	**06:16**	10H16M
22	🌒	06:51	**04:33**	09:20	**05:57**	9H42M	06:57	**04:55**	09:21	**06:24**	9H58M	07:16	**05:31**	09:36	**07:07**	10H15M
23	🌒	06:52	**04:32**	10:10	**06:54**	9H40M	06:58	**04:54**	10:11	07:20	9H56M	07:17	**05:31**	10:26	**08:03**	10H14M
24	🌒	06:54	**04:32**	10:52	**07:56**	9H38M	06:59	**04:54**	10:54	08:22	9H55M	07:18	**05:30**	11:11	**09:03**	10H12M
25	🌒	06:55	**04:31**	11:27	**09:02**	9H36M	07:00	**04:53**	11:31	09:26	9H53M	07:19	**05:30**	11:49	**10:04**	10H11M
26	🌒	06:56	**04:31**	11:56	**10:09**	9H35M	07:01	**04:53**	**12:03**	**10:30**	9H52M	07:20	**05:30**	**12:23**	**11:07**	10H10M
27	🌒	06:57	**04:31**	**12:22**	**11:17**	9H34M	07:02	**04:53**	**12:30**	**11:36**	9H51M	07:21	**05:29**	**12:53**	–	10H8M
28	🌓	06:58	**04:30**	**12:45**	–	9H32M	07:03	**04:52**	**12:56**	–	9H49M	07:22	**05:29**	**01:21**	12:09	10H7M
29	🌔	06:59	**04:30**	**01:07**	12:26	9H31M	07:04	**04:52**	**01:21**	12:42	9H48M	07:23	**05:29**	**01:49**	01:13	10H6M
30	🌔	07:00	**04:29**	**01:30**	01:36	9H29M	07:05	**04:52**	**01:47**	01:50	9H47M	07:24	**05:29**	**02:17**	02:18	10H5M

D.	P.	ORLANDO					MINNEAPOLIS					CHICAGO				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	◐	07:38	**06:40**	**04:08**	03:15	11H2M	07:52	**06:01**	**04:04**	02:49	10H9M	07:23	**05:44**	**03:40**	02:29	10H21M
2	◐	06:38	**05:39**	**03:40**	03:18	11H1M	06:53	**04:59**	**03:24**	03:06	10H6M	06:25	**04:43**	**03:02**	02:42	10H18M
3	◐	06:39	**05:39**	**04:14**	04:23	11H0M	06:55	**04:58**	**03:45**	04:25	10H3M	06:26	**04:42**	**03:26**	03:58	10H16M
4	◐	06:40	**05:38**	**04:53**	05:31	10H58M	06:56	**04:57**	**04:10**	05:48	10H1M	06:27	**04:41**	**03:54**	05:18	10H14M
5	○	06:41	**05:37**	**05:36**	06:44	10H56M	06:58	**04:55**	**04:40**	07:15	9H57M	06:28	**04:39**	**04:27**	06:41	10H11M
6	◑	06:41	**05:37**	**06:28**	07:58	10H56M	06:59	**04:54**	**05:20**	08:43	9H55M	06:29	**04:38**	**05:10**	08:06	10H9M
7	◑	06:42	**05:36**	**07:28**	09:13	10H54M	07:00	**04:53**	**06:13**	10:05	9H53M	06:31	**04:37**	**06:05**	09:27	10H6M
8	◑	06:43	**05:35**	**08:34**	10:21	10H52M	07:02	**04:52**	**07:20**	11:16	9H50M	06:32	**04:36**	**07:11**	10:37	10H4M
9	◑	06:44	**05:35**	**09:43**	11:21	10H51M	07:03	**04:50**	**08:35**	**12:10**	9H47M	06:33	**04:35**	**08:25**	11:33	10H2M
10	◑	06:44	**05:34**	**10:50**	**12:11**	10H50M	07:04	**04:49**	**09:53**	**12:50**	9H45M	06:34	**04:34**	**09:40**	**12:15**	10H0M
11	◑	06:45	**05:34**	**11:53**	**12:52**	10H49M	07:06	**04:48**	**11:09**	**01:19**	9H42M	06:36	**04:33**	**10:53**	**12:48**	9H57M
12	◑	06:46	**05:33**	–	**01:27**	10H47M	07:07	**04:47**	–	**01:42**	9H40M	06:37	**04:32**	–	**01:13**	9H55M
13	◑	06:47	**05:33**	12:53	**01:58**	10H46M	07:08	**04:46**	12:20	**02:01**	9H38M	06:38	**04:31**	12:02	**01:35**	9H53M
14	◑	06:48	**05:32**	01:49	**02:26**	10H44M	07:10	**04:45**	01:28	**02:18**	9H35M	06:39	**04:30**	01:07	**01:55**	9H51M
15	◑	06:48	**05:32**	02:43	**02:53**	10H44M	07:11	**04:44**	02:34	**02:34**	9H33M	06:41	**04:29**	02:10	**02:13**	9H48M
16	◑	06:49	**05:31**	03:37	**03:20**	10H42M	07:13	**04:43**	03:39	**02:51**	9H30M	06:42	**04:29**	03:12	**02:32**	9H47M
17	◑	06:50	**05:31**	04:30	**03:49**	10H41M	07:14	**04:42**	04:44	**03:09**	9H28M	06:43	**04:28**	04:15	**02:52**	9H45M
18	◑	06:51	**05:31**	05:24	**04:20**	10H40M	07:15	**04:41**	05:49	**03:30**	9H26M	06:44	**04:27**	05:18	**03:16**	9H43M
19	◑	06:51	**05:30**	06:20	**04:55**	10H39M	07:17	**04:40**	06:56	**03:55**	9H23M	06:45	**04:26**	06:21	**03:43**	9H41M
20	●	06:52	**05:30**	07:17	**05:35**	10H38M	07:18	**04:39**	08:01	**04:27**	9H21M	06:47	**04:26**	07:25	**04:17**	9H39M
21	◐	06:53	**05:30**	08:13	**06:20**	10H37M	07:19	**04:39**	09:04	**05:06**	9H20M	06:48	**04:25**	08:26	**04:58**	9H37M
22	◐	06:54	**05:29**	09:07	**07:11**	10H35M	07:20	**04:38**	10:01	**05:56**	9H18M	06:49	**04:24**	09:22	**05:48**	9H35M
23	◐	06:55	**05:29**	09:58	**08:06**	10H34M	07:22	**04:37**	10:49	**06:55**	9H15M	06:50	**04:24**	10:11	**06:46**	9H34M
24	◐	06:55	**05:29**	10:43	**09:04**	10H34M	07:23	**04:36**	11:28	**08:00**	9H13M	06:51	**04:23**	10:52	**07:49**	9H32M
25	◐	06:56	**05:29**	11:24	**10:03**	10H33M	07:24	**04:36**	**12:00**	**09:09**	9H12M	06:52	**04:23**	11:26	**08:56**	9H31M
26	◐	06:57	**05:29**	**12:01**	**11:03**	10H32M	07:25	**04:35**	**12:26**	**10:20**	9H10M	06:53	**04:22**	11:54	**10:04**	9H29M
27	◐	06:58	**05:29**	**12:34**	–	10H31M	07:27	**04:35**	**12:47**	**11:32**	9H8M	06:55	**04:22**	12:19	**11:13**	9H27M
28	◐	06:59	**05:28**	**01:05**	12:02	10H29M	07:28	**04:34**	**01:07**	–	9H6M	06:56	**04:21**	**12:41**	–	9H25M
29	◐	06:59	**05:28**	**01:36**	01:02	10H29M	07:29	**04:34**	**01:26**	12:44	9H5M	06:57	**04:21**	**01:03**	12:22	9H24M
30	◐	07:00	**05:28**	**02:08**	02:04	10H28M	07:30	**04:33**	**01:45**	01:59	9H3M	06:58	**04:20**	**01:25**	01:34	9H22M

D.	P.	KANSAS CITY					MEMPHIS					SAN ANTONIO				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	◐	07:46	**06:17**	**04:06**	03:01	10H31M	07:22	**06:05**	**03:46**	02:46	10H43M	07:47	**06:47**	**04:18**	03:26	11H0M
2	◐	06:47	**05:16**	**03:31**	03:12	10H29M	06:23	**05:04**	**03:14**	02:53	10H41M	06:48	**05:47**	**03:50**	03:29	10H59M
3	◐	06:49	**05:15**	**03:58**	04:25	10H26M	06:24	**05:03**	**03:44**	04:03	10H39M	06:49	**05:46**	**04:24**	04:35	10H57M
4	◐	06:50	**05:14**	**04:28**	05:42	10H24M	06:25	**05:03**	**04:17**	05:17	10H38M	06:50	**05:45**	**05:02**	05:44	10H55M
5	○	06:51	**05:13**	**05:04**	07:03	10H22M	06:26	**05:02**	**04:57**	06:34	10H36M	06:50	**05:44**	**05:45**	06:57	10H54M
6	◑	06:52	**05:12**	**05:50**	08:25	10H20M	06:27	**05:01**	**05:45**	07:53	10H34M	06:51	**05:44**	**06:37**	08:13	10H53M
7	◑	06:53	**05:11**	**06:46**	09:44	10H18M	06:28	**05:00**	**06:42**	09:10	10H32M	06:52	**05:43**	**07:37**	09:27	10H51M
8	◑	06:54	**05:10**	**07:53**	10:54	10H16M	06:28	**04:59**	**07:49**	10:20	10H31M	06:53	**05:42**	**08:43**	10:36	10H49M
9	◑	06:55	**05:09**	**09:05**	11:50	10H14M	06:29	**04:58**	**08:59**	11:17	10H29M	06:54	**05:42**	**09:52**	11:35	10H48M
10	◑	06:56	**05:08**	**10:18**	**12:34**	10H12M	06:30	**04:58**	**10:10**	**12:04**	10H28M	06:54	**05:41**	**10:59**	**12:24**	10H47M
11	◑	06:57	**05:07**	**11:28**	**01:09**	10H10M	06:31	**04:57**	**11:17**	**12:41**	10H26M	06:55	**05:41**	–	**01:04**	10H46M

November

D. = Day of the Month   P. = Phase of the Moon   LOD = Length of Day   *Bold indicates PM time

D.	P.	KANSAS CITY					MEMPHIS					SAN ANTONIO				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
12	🌗	06:58	**05:06**	–	**01:37**	10H8M	06:32	**04:56**	–	**01:12**	10H24M	06:56	**05:40**	12:03	**01:38**	10H44M
13	🌘	07:00	**05:05**	12:35	**02:01**	10H5M	06:33	**04:55**	12:21	**01:39**	10H22M	06:57	**05:40**	01:03	**02:08**	10H43M
14	🌘	07:01	**05:04**	01:38	**02:22**	10H3M	06:34	**04:55**	01:21	**02:03**	10H21M	06:58	**05:39**	02:00	**02:36**	10H41M
15	🌘	07:02	**05:04**	02:39	**02:43**	10H2M	06:35	**04:54**	02:20	02:26	10H19M	06:58	**05:39**	02:54	**03:02**	10H41M
16	🌘	07:03	**05:03**	03:39	**03:03**	10H0M	06:36	**04:53**	03:17	02:49	10H17M	06:59	**05:38**	03:48	**03:29**	10H39M
17	🌘	07:04	**05:02**	04:39	**03:26**	9H58M	06:37	**04:53**	04:14	03:14	10H16M	07:00	**05:38**	04:42	**03:57**	10H38M
18	🌘	07:05	**05:02**	05:40	**03:51**	9H57M	06:38	**04:52**	05:13	03:42	10H14M	07:01	**05:37**	05:37	**04:28**	10H36M
19	🌘	07:06	**05:01**	06:42	**04:21**	9H55M	06:39	**04:52**	06:12	04:14	10H13M	07:02	**05:37**	06:33	**05:03**	10H35M
20	🌑	07:07	**05:00**	07:43	**04:56**	9H53M	06:40	**04:51**	07:11	**04:51**	10H11M	07:02	**05:37**	07:30	**05:43**	10H35M
21	🌒	07:08	**05:00**	08:43	**05:39**	9H52M	06:41	**04:51**	08:10	**05:35**	10H10M	07:03	**05:36**	08:26	**06:28**	10H33M
22	🌒	07:10	**04:59**	09:39	**06:29**	9H49M	06:42	**04:51**	09:05	**06:25**	10H9M	07:04	**05:36**	09:21	**07:19**	10H32M
23	🌒	07:11	**04:59**	10:28	**07:26**	9H48M	06:43	**04:50**	09:55	**07:22**	10H7M	07:05	**05:36**	10:11	**08:15**	10H31M
24	🌒	07:12	**04:58**	11:10	**08:28**	9H46M	06:44	**04:50**	10:38	**08:22**	10H6M	07:06	**05:36**	10:56	**09:13**	10H30M
25	🌒	07:13	**04:58**	11:46	**09:33**	9H45M	06:45	**04:49**	11:16	**09:24**	10H4M	07:06	**05:36**	11:37	**10:13**	10H30M
26	🌒	07:14	**04:57**	**12:16**	**10:39**	9H43M	06:46	**04:49**	11:49	**10:28**	10H3M	07:07	**05:35**	**12:12**	**11:13**	10H28M
27	🌒	07:15	**04:57**	**12:43**	**11:45**	9H42M	06:47	**04:49**	**12:18**	**11:31**	10H2M	07:08	**05:35**	**12:45**	–	10H27M
28	🌓	07:16	**04:57**	**01:07**	–	9H41M	06:48	**04:49**	**12:45**	–	10H1M	07:09	**05:35**	**01:16**	12:13	10H26M
29	🌔	07:17	**04:57**	**01:31**	12:53	9H40M	06:49	**04:48**	**01:12**	12:36	9H59M	07:10	**05:35**	**01:46**	01:13	10H25M
30	🌔	07:18	**04:56**	**01:55**	02:02	9H38M	06:50	**04:48**	**01:40**	01:42	9H58M	07:10	**05:35**	**02:18**	02:15	10H25M

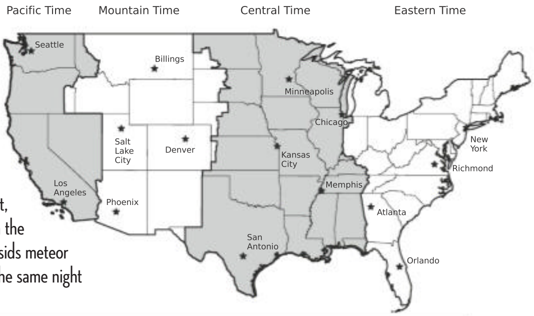
D.	P.	BILLINGS					SALT LAKE CITY					DENVER				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	🌓	07:55	**06:00**	**04:07**	02:52	10H5M	07:58	**06:23**	**04:18**	03:12	10H25M	07:29	**05:57**	**03:49**	02:44	10H28M
2	🌔	06:56	**04:58**	**03:25**	03:10	10H2M	07:00	**05:22**	**03:41**	03:25	10H22M	06:30	**04:56**	**03:13**	02:56	10H26M
3	🌔	06:58	**04:57**	**03:46**	04:30	9H59M	07:01	**05:21**	**04:06**	04:40	10H20M	06:31	**04:55**	**03:39**	04:10	10H24M
4	🌔	06:59	**04:56**	**04:10**	05:54	9H57M	07:02	**05:20**	**04:35**	05:58	10H18M	06:32	**04:54**	**04:09**	05:27	10H22M
5	🌕	07:00	**04:54**	**04:40**	07:22	9H54M	07:03	**05:19**	**05:11**	07:21	10H16M	06:34	**04:53**	**04:45**	06:49	10H19M
6	🌖	07:02	**04:53**	**05:19**	08:51	9H51M	07:04	**05:18**	**05:55**	08:44	10H14M	06:35	**04:52**	**05:31**	08:11	10H17M
7	🌖	07:03	**04:52**	**06:13**	10:14	9H49M	07:06	**05:17**	**06:51**	10:04	10H11M	06:36	**04:51**	**06:27**	09:31	10H15M
8	🌖	07:05	**04:50**	**07:20**	11:24	9H45M	07:07	**05:15**	**07:58**	11:13	10H8M	06:37	**04:50**	**07:34**	10:40	10H13M
9	🌖	07:06	**04:49**	**08:36**	**12:17**	9H43M	07:08	**05:14**	**09:11**	**12:0**8	10H6M	06:38	**04:49**	**08:46**	11:36	10H11M
10	🌖	07:07	**04:48**	**09:54**	**12:55**	9H41M	07:09	**05:14**	**10:26**	**12:51**	10H5M	06:39	**04:48**	**10:00**	**12:19**	10H9M
11	🌖	07:09	**04:47**	**11:10**	**01:24**	9H38M	07:10	**05:13**	**11:37**	**01:24**	10H3M	06:40	**04:47**	**11:10**	**12:53**	10H7M
12	🌗	07:10	**04:46**	–	**01:46**	9H36M	07:11	**05:12**	–	**01:50**	10H1M	06:42	**04:46**	–	**01:20**	10H4M
13	🌘	07:12	**04:45**	12:23	**02:04**	9H33M	07:13	**05:11**	12:45	**02:12**	9H58M	06:43	**04:45**	12:17	**01:43**	10H2M
14	🌘	07:13	**04:43**	01:32	**02:20**	9H30M	07:14	**05:10**	01:49	**02:33**	9H56M	06:44	**04:45**	01:21	**02:04**	10H1M
15	🌘	07:14	**04:42**	02:38	**02:35**	9H28M	07:15	**05:09**	02:51	**02:52**	9H54M	06:45	**04:44**	02:22	**02:24**	9H59M
16	🌘	07:16	**04:41**	03:43	**02:51**	9H25M	07:16	**05:08**	03:53	**03:12**	9H52M	06:46	**04:43**	03:23	**02:45**	9H57M
17	🌘	07:17	**04:40**	04:49	**03:09**	9H23M	07:17	**05:08**	04:54	**03:33**	9H51M	06:47	**04:42**	04:23	**03:07**	9H55M
18	🌘	07:19	**04:40**	05:55	**03:29**	9H21M	07:18	**05:07**	05:56	**03:57**	9H49M	06:48	**04:42**	05:25	**03:32**	9H54M
19	🌘	07:20	**04:39**	07:02	**03:54**	9H19M	07:20	**05:06**	06:59	**04:26**	9H46M	06:49	**04:41**	06:27	**04:01**	9H52M

D.	P.	BILLINGS					SALT LAKE CITY					DENVER				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
20	●	07:21	**04:38**	08:09	**04:25**	9H17M	07:21	**05:05**	08:02	**05:01**	9H44M	06:51	**04:40**	07:29	**04:36**	9H49M
21	◐	07:23	**04:37**	09:12	**05:05**	9H14M	07:22	**05:05**	09:02	**05:43**	9H43M	06:52	**04:40**	08:29	**05:19**	9H48M
22	◐	07:24	**04:36**	10:08	**05:55**	9H12M	07:23	**05:04**	09:58	**06:34**	9H41M	06:53	**04:39**	09:25	**06:09**	9H46M
23	◐	07:25	**04:35**	10:56	**06:54**	9H10M	07:24	**05:04**	10:46	**07:31**	9H40M	06:54	**04:39**	10:14	**07:07**	9H45M
24	◐	07:27	**04:35**	11:35	**08:00**	9H8M	07:25	**05:03**	11:27	**08:35**	9H38M	06:55	**04:38**	10:55	**08:09**	9H43M
25	◐	07:28	**04:34**	**12:05**	**09:10**	9H6M	07:26	**05:03**	**12:02**	**09:41**	9H37M	06:56	**04:38**	11:30	**09:15**	9H42M
26	◐	07:29	**04:33**	**12:30**	**10:22**	9H4M	07:27	**05:02**	**12:31**	**10:48**	9H35M	06:57	**04:37**	**12:00**	**10:21**	9H40M
27	◐	07:30	**04:33**	**12:51**	**11:34**	9H3M	07:29	**05:02**	**12:56**	**11:56**	9H33M	06:58	**04:37**	**12:26**	**11:28**	9H39M
28	◐	07:32	**04:32**	**01:09**	–	9H0M	07:30	**05:01**	**01:19**	–	9H31M	06:59	**04:37**	**12:50**	–	9H38M
29	◐	07:33	**04:32**	**01:27**	12:48	8H59M	07:31	**05:01**	**01:41**	01:05	9H30M	07:00	**04:36**	**01:13**	12:36	9H36M
30	◐	07:34	**04:31**	**01:46**	02:04	8H57M	07:32	**05:01**	**02:04**	02:15	9H29M	07:01	**04:36**	**01:37**	01:46	9H35M

D.	P.	PHOENIX					SEATTLE					LOS ANGELES				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	◐	06:47	**05:36**	**03:15**	02:19	10H49M	07:54	**05:51**	**04:04**	02:49	9H57M	07:13	**06:00**	**03:41**	02:45	10H47M
2	◐	06:48	**05:35**	**03:44**	03:26	10H47M	06:56	**04:50**	**03:21**	03:08	9H54M	06:14	**04:59**	**03:09**	02:52	10H45M
3	◐	06:49	**05:34**	**04:15**	04:35	10H45M	06:57	**04:48**	**03:39**	04:31	9H51M	06:15	**04:58**	**03:40**	04:01	10H43M
4	◐	06:50	**05:33**	**04:50**	05:47	10H43M	06:59	**04:47**	**04:01**	05:57	9H48M	06:16	**04:57**	**04:15**	05:14	10H41M
5	○	06:51	**05:32**	**05:32**	07:03	10H41M	07:00	**04:45**	**04:29**	07:27	9H45M	06:17	**04:56**	**04:56**	06:31	10H39M
6	◑	06:52	**05:32**	**06:21**	08:21	10H40M	07:02	**04:44**	**05:07**	08:58	9H42M	06:18	**04:55**	**05:45**	07:49	10H37M
7	◑	06:53	**05:31**	**07:20**	09:37	10H38M	07:03	**04:42**	**06:00**	10:22	9H39M	06:18	**04:55**	**06:44**	09:05	10H37M
8	◑	06:54	**05:30**	**08:27**	10:46	10H36M	07:05	**04:41**	**07:07**	11:32	9H36M	06:19	**04:54**	**07:51**	10:13	10H35M
9	◑	06:55	**05:29**	**09:37**	11:43	10H34M	07:06	**04:40**	**08:25**	**12:23**	9H34M	06:20	**04:53**	**09:01**	11:11	10H33M
10	◑	06:55	**05:29**	**10:47**	**12:30**	10H34M	07:08	**04:38**	**09:46**	**12:59**	9H30M	06:21	**04:52**	**10:11**	11:57	10H31M
11	◑	06:56	**05:28**	**11:53**	**01:08**	10H32M	07:09	**04:37**	**11:04**	**01:26**	9H28M	06:22	**04:52**	**11:17**	**12:34**	10H30M
12	◑	06:57	**05:27**	–	**01:39**	10H30M	07:11	**04:36**	–	**01:46**	9H25M	06:23	**04:51**	–	**01:05**	10H28M
13	◑	06:58	**05:27**	12:55	**02:07**	10H29M	07:12	**04:35**	12:18	**02:02**	9H23M	06:24	**04:50**	12:20	**01:32**	10H26M
14	◑	06:59	**05:26**	01:54	**02:32**	10H27M	07:14	**04:33**	01:28	**02:16**	9H19M	06:25	**04:50**	01:19	**01:57**	10H25M
15	◑	07:00	**05:25**	02:51	**02:56**	10H25M	07:15	**04:32**	02:36	**02:30**	9H17M	06:26	**04:49**	02:17	**02:21**	10H23M
16	◑	07:01	**05:25**	03:47	**03:21**	10H24M	07:17	**04:31**	03:43	**02:45**	9H14M	06:27	**04:48**	03:13	**02:45**	10H21M
17	◑	07:02	**05:24**	04:44	**03:47**	10H22M	07:18	**04:30**	04:51	**03:00**	9H12M	06:28	**04:48**	04:10	**03:11**	10H20M
18	◑	07:03	**05:24**	05:41	**04:16**	10H21M	07:20	**04:29**	05:59	**03:19**	9H9M	06:29	**04:47**	05:08	**03:40**	10H18M
19	◑	07:04	**05:23**	06:39	**04:49**	10H19M	07:21	**04:28**	07:08	**03:42**	9H7M	06:30	**04:47**	06:06	**04:12**	10H17M
20	●	07:05	**05:23**	07:38	**05:27**	10H18M	07:22	**04:27**	08:15	**04:13**	9H5M	06:31	**04:46**	07:05	**04:51**	10H15M
21	◐	07:06	**05:23**	08:36	**06:12**	10H17M	07:24	**04:26**	09:20	**04:52**	9H2M	06:32	**04:46**	08:03	**05:35**	10H14M
22	◐	07:07	**05:22**	09:30	**07:03**	10H15M	07:25	**04:26**	10:16	**05:42**	9H1M	06:33	**04:46**	08:58	**06:26**	10H13M
23	◐	07:07	**05:22**	10:20	**07:59**	10H15M	07:27	**04:25**	11:03	**06:42**	8H58M	06:33	**04:45**	09:47	**07:23**	10H12M
24	◐	07:08	**05:22**	11:04	**08:59**	10H14M	07:28	**04:24**	11:40	**07:50**	8H56M	06:34	**04:45**	10:31	**08:23**	10H11M
25	◐	07:09	**05:21**	11:42	**10:00**	10H12M	07:29	**04:23**	**12:09**	**09:02**	8H54M	06:35	**04:45**	11:09	**09:25**	10H10M
26	◐	07:10	**05:21**	**12:16**	**11:03**	10H11M	07:31	**04:23**	**12:31**	**10:15**	8H52M	06:36	**04:44**	11:42	**10:27**	10H8M
27	◐	07:11	**05:21**	**12:46**	–	10H10M	07:32	**04:22**	**12:50**	**11:30**	8H50M	06:37	**04:44**	**12:12**	**11:30**	10H7M
28	◐	07:12	**05:21**	**01:14**	12:05	10H9M	07:33	**04:21**	**01:07**	–	8H48M	06:38	**04:44**	**12:40**	–	10H6M
29	◐	07:13	**05:20**	**01:42**	01:08	10H7M	07:35	**04:21**	**01:23**	12:45	8H46M	06:39	**04:44**	**01:07**	12:34	10H5M
30	◐	07:14	**05:20**	**02:11**	02:13	10H6M	07:36	**04:20**	**01:40**	02:03	8H44M	06:40	**04:44**	**01:35**	01:39	10H4M

December

Worth watching: The month starts off with a supermoon on the 4th, the third and final one of 2025. The Geminids meteor shower will peak on the 13th and is one of the most prolific meteor showers of the year. The winter solstice takes place on the 21st, bringing with it the shortest day of winter, after which the days will start to become longer again. Finally, the Ursids meteor shower also will be viewable this month, peaking on the same night of the winter solstice.



D. = Day of the Month P. = Phase of the Moon LOD = Length of Day *Bold indicates PM time

D.	P.	NEW YORK CITY					RICHMOND					ATLANTA				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	🌔	07:01	**04:29**	**01:56**	02:50	9H28M	07:06	**04:52**	**02:15**	03:01	9H46M	07:24	**05:29**	**02:49**	03:26	10H5M
2	🌔	07:02	**04:29**	**02:27**	04:08	9H27M	07:07	**04:51**	**02:48**	04:16	9H44M	07:25	**05:29**	**03:25**	04:38	10H4M
3	🌔	07:03	**04:29**	**03:05**	05:30	9H26M	07:08	**04:51**	**03:29**	05:35	9H43M	07:26	**05:29**	**04:09**	05:54	10H3M
4	🌕	07:04	**04:29**	**03:54**	06:52	9H25M	07:09	**04:51**	**04:21**	06:55	9H42M	07:27	**05:29**	**05:03**	07:12	10H2M
5	🌖	07:05	**04:29**	**04:56**	08:10	9H24M	07:10	**04:51**	**05:23**	08:11	9H41M	07:28	**05:29**	**06:06**	08:26	10H1M
6	🌖	07:06	**04:28**	**06:08**	09:15	9H22M	07:10	**04:51**	**06:35**	09:17	9H41M	07:29	**05:29**	**07:17**	09:32	10H0M
7	🌖	07:07	**04:28**	**07:25**	10:06	9H21M	07:11	**04:51**	**07:50**	10:10	9H40M	07:29	**05:29**	**08:31**	10:26	10H0M
8	🌖	07:08	**04:28**	**08:41**	10:46	9H20M	07:12	**04:51**	**09:04**	10:51	9H39M	07:30	**05:29**	**09:41**	11:10	9H59M
9	🌖	07:08	**04:28**	**09:53**	11:16	9H20M	07:13	**04:51**	**10:13**	11:24	9H38M	07:31	**05:29**	**10:48**	11:46	9H58M
10	🌖	07:09	**04:29**	**11:01**	11:41	9H20M	07:14	**04:52**	**11:18**	11:51	9H38M	07:32	**05:29**	**11:50**	**12:16**	9H57M
11	🌗	07:10	**04:29**	–	**12:03**	9H19M	07:15	**04:52**	–	**12:15**	9H37M	07:32	**05:29**	–	**12:42**	9H57M
12	🌘	07:11	**04:29**	12:05	**12:23**	9H18M	07:15	**04:52**	12:20	**12:38**	9H37M	07:33	**05:30**	12:49	**01:07**	9H57M
13	🌘	07:12	**04:29**	01:07	**12:43**	9H17M	07:16	**04:52**	01:20	**01:00**	9H36M	07:34	**05:30**	01:46	**01:31**	9H56M
14	🌘	07:12	**04:29**	02:09	**01:04**	9H17M	07:17	**04:52**	02:19	**01:23**	9H35M	07:34	**05:30**	02:43	**01:56**	9H56M
15	🌘	07:13	**04:30**	03:10	**01:27**	9H17M	07:17	**04:53**	03:18	**01:48**	9H36M	07:35	**05:31**	03:40	**02:24**	9H56M
16	🌘	07:14	**04:30**	04:13	**01:54**	9H16M	07:18	**04:53**	04:18	**02:17**	9H35M	07:36	**05:31**	04:38	**02:55**	9H55M
17	🌘	07:14	**04:30**	05:15	**02:26**	9H16M	07:19	**04:53**	05:19	**02:51**	9H34M	07:36	**05:31**	05:37	**03:31**	9H55M
18	🌘	07:15	**04:31**	06:17	**03:05**	9H16M	07:19	**04:54**	06:19	**03:32**	9H35M	07:37	**05:32**	06:35	**04:14**	9H55M
19	🌘	07:16	**04:31**	07:15	**03:52**	9H15M	07:20	**04:54**	07:16	**04:20**	9H34M	07:38	**05:32**	07:31	**05:02**	9H54M
20	🌑	07:16	**04:31**	08:07	**04:48**	9H15M	07:20	**04:55**	08:08	**05:15**	9H35M	07:38	**05:33**	08:23	**05:57**	9H55M
21	🌒	07:17	**04:32**	08:51	**05:50**	9H15M	07:21	**04:55**	08:53	**06:15**	9H34M	07:39	**05:33**	09:09	**06:57**	9H54M
22	🌒	07:17	**04:32**	09:28	**06:55**	9H15M	07:21	**04:56**	09:32	**07:19**	9H35M	07:39	**05:34**	09:50	**07:58**	9H55M
23	🌒	07:18	**04:33**	09:59	**08:02**	9H15M	07:22	**04:56**	10:05	**08:24**	9H34M	07:40	**05:34**	10:25	**09:00**	9H54M
24	🌒	07:18	**04:34**	10:25	**09:09**	9H16M	07:22	**04:57**	10:33	**09:28**	9H35M	07:40	**05:35**	10:56	**10:02**	9H55M
25	🌒	07:18	**04:34**	10:49	**10:16**	9H16M	07:23	**04:57**	10:59	**10:33**	9H34M	07:40	**05:35**	11:24	**11:04**	9H55M
26	🌒	07:19	**04:35**	11:11	**11:24**	9H16M	07:23	**04:58**	11:23	**11:38**	9H35M	07:41	**05:36**	11:51	–	9H55M
27	🌓	07:19	**04:36**	11:33	–	9H17M	07:23	**04:59**	11:48	–	9H36M	07:41	**05:37**	**12:18**	12:07	9H56M
28	🌔	07:19	**04:36**	11:56	12:33	9H17M	07:24	**04:59**	**12:14**	12:45	9H35M	07:41	**05:37**	**12:47**	01:11	9H56M
29	🌔	07:20	**04:37**	**12:23**	01:47	9H17M	07:24	**05:00**	**12:44**	01:55	9H36M	07:42	**05:38**	**01:19**	02:19	9H56M
30	🌔	07:20	**04:38**	**12:56**	03:03	9H18M	07:24	**05:01**	**01:19**	03:10	9H37M	07:42	**05:39**	**01:58**	03:30	9H57M
31	🌔	07:20	**04:39**	**01:38**	04:23	9H19M	07:24	**05:02**	**02:04**	04:27	9H38M	07:42	**05:39**	**02:45**	04:45	9H57M

D.	P.	ORLANDO					MINNEAPOLIS					CHICAGO				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	◐	107:01	**05:28**	**02:43**	03:08	10H27M	07:31	**04:33**	**02:07**	03:17	9H2M	06:59	**04:20**	**01:50**	02:49	9H21M
2	◐	07:02	**05:28**	**03:23**	04:16	10H26M	07:33	**04:33**	**02:34**	04:40	9H0M	07:00	**04:20**	**02:19**	04:08	9H20M
3	◐	07:02	**05:28**	**04:10**	05:29	10H26M	07:34	**04:32**	**03:08**	06:06	8H58M	07:01	**04:20**	**02:57**	05:31	9H19M
4	○	07:03	**05:28**	**05:06**	06:44	10H25M	07:35	**04:32**	**03:55**	07:32	8H57M	07:02	**04:20**	**03:46**	06:55	9H18M
5	◑	07:04	**05:29**	**06:11**	07:57	10H25M	07:36	**04:32**	**04:56**	08:51	8H56M	07:03	**04:19**	**04:48**	08:12	9H16M
6	◑	07:05	**05:29**	**07:21**	09:03	10H24M	07:37	**04:32**	**06:10**	09:55	8H55M	07:04	**04:19**	**06:01**	09:17	9H15M
7	◑	07:05	**05:29**	**08:31**	10:00	10H24M	07:38	**04:32**	**07:30**	10:43	8H54M	07:05	**04:19**	**07:18**	10:07	9H14M
8	◑	07:06	**05:29**	**09:39**	10:46	10H23M	07:39	**04:31**	**08:50**	11:18	8H52M	07:06	**04:19**	**08:35**	10:45	9H13M
9	◑	07:07	**05:29**	**10:42**	11:25	10H22M	07:40	**04:31**	**10:06**	11:44	8H51M	07:07	**04:19**	**09:48**	11:14	9H12M
10	◑	07:07	**05:29**	**11:41**	11:58	10H22M	07:41	**04:31**	**11:17**	**12:05**	8H50M	07:07	**04:19**	**10:57**	11:38	9H12M
11	◑	07:08	**05:30**	–	**12:28**	10H22M	07:41	**04:31**	–	**12:23**	8H50M	07:08	**04:19**	–	11:59	9H11M
12	◑	07:09	**05:30**	12:37	**12:55**	10H21M	07:42	**04:32**	12:25	**12:40**	8H50M	07:09	**04:20**	12:02	**12:18**	9H11M
13	◑	07:09	**05:30**	01:31	**01:23**	10H21M	07:43	**04:32**	01:30	**12:57**	8H49M	07:10	**04:20**	01:05	**12:37**	9H10M
14	◑	07:10	**05:31**	02:25	**01:51**	10H21M	07:44	**04:32**	02:35	**01:14**	8H48M	07:11	**04:20**	02:07	**12:57**	9H9M
15	◑	07:11	**05:31**	03:19	**02:21**	10H20M	07:45	**04:32**	03:41	**01:34**	8H47M	07:11	**04:20**	03:10	**01:19**	9H9M
16	◑	07:11	**05:31**	04:14	**02:55**	10H20M	07:45	**04:32**	04:47	**01:58**	8H47M	07:12	**04:21**	04:13	**01:45**	9H9M
17	◑	07:12	**05:32**	05:10	**03:33**	10H20M	07:46	**04:33**	05:52	**02:27**	8H47M	07:13	**04:21**	05:16	**02:17**	9H8M
18	◑	07:12	**05:32**	06:07	**04:17**	10H20M	07:47	**04:33**	06:56	**03:05**	8H46M	07:13	**04:21**	06:19	**02:56**	9H8M
19	◑	07:13	**05:33**	07:02	**05:07**	10H20M	07:47	**04:34**	07:55	**03:52**	8H47M	07:14	**04:22**	07:17	**03:44**	9H8M
20	●	07:13	**05:33**	07:54	**06:01**	10H20M	07:48	**04:34**	08:47	**04:48**	8H46M	07:14	**04:22**	08:08	**04:39**	9H8M
21	◐	07:14	**05:34**	08:42	**06:59**	10H20M	07:48	**04:34**	09:29	**05:52**	8H46M	07:15	**04:23**	08:52	**05:42**	9H8M
22	◐	07:14	**05:34**	09:24	**07:58**	10H20M	07:49	**04:35**	10:02	**07:01**	8H46M	07:15	**04:23**	09:28	**06:48**	9H8M
23	◐	07:15	**05:35**	10:02	**08:57**	10H20M	07:49	**04:36**	10:30	**08:12**	8H47M	07:16	**04:24**	09:58	**07:56**	9H8M
24	◐	07:15	**05:35**	10:36	**09:56**	10H20M	07:50	**04:36**	10:52	**09:22**	8H46M	07:16	**04:24**	10:23	**09:04**	9H8M
25	◐	07:16	**05:36**	11:07	**10:55**	10H20M	07:50	**04:37**	11:12	**10:33**	8H47M	07:17	**04:25**	10:45	**10:12**	9H8M
26	◐	07:16	**05:36**	11:37	**11:54**	10H20M	07:50	**04:38**	11:30	**11:45**	8H48M	07:17	**04:26**	11:06	**11:21**	9H9M
27	◐	07:17	**05:37**	**12:07**	–	10H20M	07:51	**04:38**	11:48	–	8H47M	07:17	**04:26**	11:27	–	9H9M
28	◐	07:17	**05:38**	**12:40**	12:55	10H21M	07:51	**04:39**	**12:08**	12:59	8H48M	07:18	**04:27**	11:50	12:32	9H9M
29	◐	07:17	**05:38**	**01:16**	01:59	10H21M	07:51	**04:40**	**12:32**	02:16	8H49M	07:18	**04:28**	**12:16**	01:46	9H10M
30	◐	07:18	**05:39**	**01:58**	03:06	10H21M	07:51	**04:41**	**01:01**	03:38	8H50M	07:18	**04:29**	**12:48**	03:04	9H11M
31	◐	07:18	**05:40**	**02:47**	04:18	10H22M	07:51	**04:42**	**01:40**	05:02	8H51M	07:18	**04:29**	**01:30**	04:25	9H11M

D.	P.	KANSAS CITY					MEMPHIS					SAN ANTONIO				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	◐	107:19	**04:56**	**02:23**	03:15	9H37M	06:50	**04:48**	**02:10**	02:51	9H58M	07:11	**05:35**	**02:52**	03:20	10H24M
2	◐	07:20	**04:56**	**02:55**	04:31	9H36M	06:51	**04:48**	**02:45**	04:04	9H57M	07:12	**05:35**	**03:32**	04:30	10H23M
3	◐	07:21	**04:56**	**03:35**	05:52	9H35M	06:52	**04:48**	**03:28**	05:21	9H56M	07:13	**05:35**	**04:19**	05:43	10H22M
4	○	07:22	**04:56**	**04:26**	07:13	9H34M	06:53	**04:48**	**04:22**	06:40	9H55M	07:14	**05:35**	**05:15**	06:58	10H21M
5	◑	07:23	**04:56**	**05:29**	08:29	9H33M	06:54	**04:48**	**05:25**	07:55	9H54M	07:14	**05:35**	**06:20**	08:11	10H21M
6	◑	07:23	**04:55**	**06:41**	09:34	9H32M	06:55	**04:48**	**06:37**	09:00	9H53M	07:15	**05:35**	**07:30**	09:17	10H20M
7	◑	07:24	**04:55**	**07:57**	10:26	9H31M	06:56	**04:48**	**07:50**	09:54	9H52M	07:16	**05:35**	**08:41**	10:13	10H19M
8	◑	07:25	**04:56**	**09:12**	11:06	9H31M	06:56	**04:48**	**09:02**	10:37	9H52M	07:17	**05:36**	**09:49**	10:59	10H19M
9	◑	07:26	**04:56**	**10:22**	11:37	9H30M	06:57	**04:48**	**10:09**	11:11	9H51M	07:17	**05:36**	**10:53**	11:36	10H19M
10	◑	07:27	**04:56**	**11:28**	**12:03**	9H29M	06:58	**04:48**	**11:13**	11:40	9H50M	07:18	**05:36**	**11:52**	**12:09**	10H18M
11	◑	07:28	**04:56**	–	**12:26**	9H28M	06:59	**04:49**	–	**12:06**	9H50M	07:19	**05:36**	–	**12:38**	10H17M

December

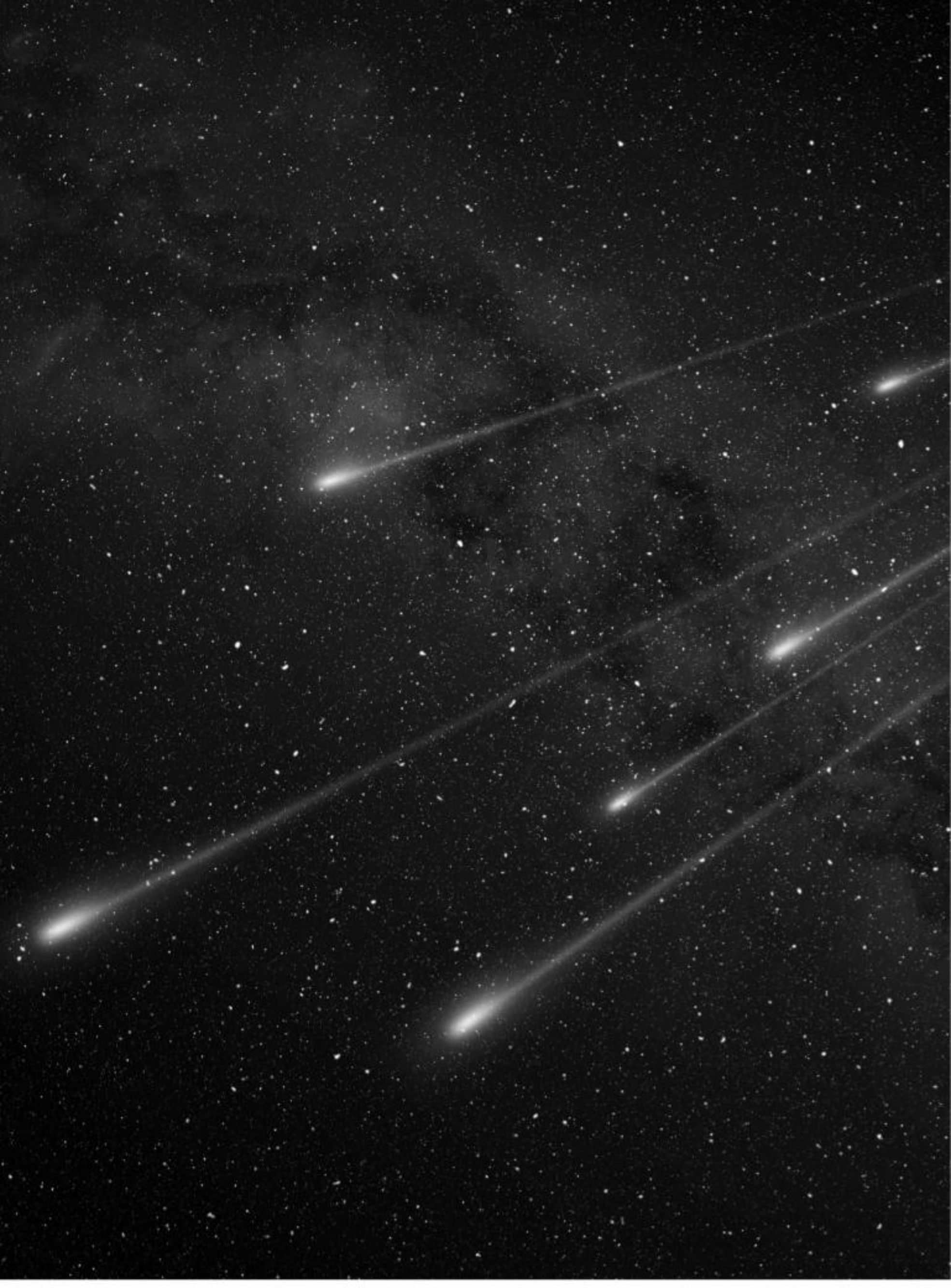
D. = Day of the Month P. = Phase of the Moon LOD = Length of Day *Bold indicates PM time

D.	P.	KANSAS CITY					MEMPHIS					SAN ANTONIO				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
12	🌘	07:28	**04:56**	12:31	**12:47**	9H28M	06:59	**04:49**	12:13	**12:29**	9H50M	07:19	**05:37**	12:48	**01:05**	10H18M
13	🌘	07:29	**04:56**	01:32	**01:08**	9H27M	07:00	**04:49**	01:11	**12:53**	9H49M	07:20	**05:37**	01:43	**01:32**	10H17M
14	🌘	07:30	**04:56**	02:32	**01:30**	9H26M	07:01	**04:49**	02:08	**01:17**	9H48M	07:21	**05:37**	02:37	**02:00**	10H16M
15	🌘	07:31	**04:57**	03:33	**01:54**	9H26M	07:01	**04:50**	03:06	**01:44**	9H49M	07:21	**05:38**	03:32	**02:30**	10H17M
16	🌘	07:31	**04:57**	04:34	**02:22**	9H26M	07:02	**04:50**	04:05	**02:15**	9H48M	07:22	**05:38**	04:27	**03:03**	10H16M
17	🌘	07:32	**04:57**	05:36	**02:56**	9H25M	07:03	**04:50**	05:04	**02:50**	9H47M	07:22	**05:38**	05:24	**03:42**	10H16M
18	🌘	07:32	**04:58**	06:36	**03:36**	9H26M	07:03	**04:51**	06:03	**03:32**	9H48M	07:23	**05:39**	06:20	**04:25**	10H16M
19	🌘	07:33	**04:58**	07:34	**04:24**	9H25M	07:04	**04:51**	07:00	**04:21**	9H47M	07:23	**05:39**	07:16	**05:15**	10H16M
20	🌑	07:34	**04:59**	08:25	**05:20**	9H25M	07:04	**04:52**	07:51	**05:16**	9H48M	07:24	**05:40**	08:08	**06:10**	10H16M
21	🌒	07:34	**04:59**	09:10	**06:22**	9H25M	07:05	**04:52**	08:37	**06:16**	9H47M	07:25	**05:40**	08:55	**07:08**	10H15M
22	🌒	07:35	**05:00**	09:47	**07:26**	9H25M	07:05	**04:53**	09:17	**07:18**	9H48M	07:25	**05:41**	09:37	**08:07**	10H16M
23	🌒	07:35	**05:00**	10:19	**08:32**	9H25M	07:06	**04:53**	09:51	**08:21**	9H47M	07:25	**05:41**	10:14	**09:07**	10H16M
24	🌒	07:35	**05:01**	10:46	**09:38**	9H26M	07:06	**04:54**	10:21	**09:24**	9H48M	07:26	**05:42**	10:47	**10:07**	10H16M
25	🌒	07:36	**05:01**	11:10	**10:43**	9H25M	07:07	**04:54**	10:48	**10:27**	9H47M	07:26	**05:42**	11:18	**11:06**	10H16M
26	🌒	07:36	**05:02**	11:34	**11:50**	9H26M	07:07	**04:55**	11:14	**11:30**	9H48M	07:27	**05:43**	11:47	–	10H16M
27	🌓	07:36	**05:03**	11:57	–	9H27M	07:07	**04:56**	11:40	–	9H49M	07:27	**05:44**	**12:17**	12:05	10H17M
28	🌔	07:37	**05:04**	**12:22**	12:58	9H27M	07:08	**04:56**	**12:08**	12:36	9H48M	07:27	**05:44**	**12:49**	01:07	10H17M
29	🌔	07:37	**05:04**	**12:51**	02:10	9H27M	07:08	**04:57**	**12:40**	01:45	9H49M	07:28	**05:45**	**01:24**	02:11	10H17M
30	🌔	07:37	**05:05**	**01:25**	03:26	9H28M	07:08	**04:58**	**01:18**	02:57	9H50M	07:28	**05:45**	**02:06**	03:20	10H17M
31	🌔	07:37	**05:06**	**02:09**	04:44	9H29M	07:08	**04:59**	**02:04**	04:13	9H51M	07:28	**05:46**	**02:56**	04:32	10H18M

D.	P.	BILLINGS					SALT LAKE CITY					DENVER				
		☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD	☀ RISES	☀ SETS	☾ RISES	☾ SETS	LOD
1	🌔	07:35	**04:31**	**02:07**	03:23	8H56M	07:33	**05:01**	**02:31**	03:30	9H28M	07:02	**04:36**	**02:04**	02:59	9H34M
2	🌔	07:36	**04:31**	**02:33**	04:46	8H55M	07:34	**05:00**	**03:02**	04:48	9H26M	07:03	**04:36**	**02:36**	04:17	9H33M
3	🌔	07:37	**04:30**	**03:08**	06:14	8H53M	07:35	**05:00**	**03:41**	06:10	9H25M	07:04	**04:35**	**03:16**	05:38	9H31M
4	🌕	07:39	**04:30**	**03:54**	07:41	8H51M	07:36	**05:00**	**04:31**	07:33	9H24M	07:05	**04:35**	**04:07**	06:59	9H30M
5	🌖	07:40	**04:30**	**04:55**	08:59	8H50M	07:37	**05:00**	**05:34**	08:49	9H23M	07:06	**04:35**	**05:10**	08:15	9H29M
6	🌖	07:41	**04:30**	**06:10**	10:02	8H49M	07:38	**05:00**	**06:47**	09:53	9H22M	07:07	**04:35**	**06:22**	09:20	9H28M
7	🌖	07:42	**04:30**	**07:31**	10:49	8H48M	07:38	**05:00**	**08:05**	10:43	9H22M	07:08	**04:35**	**07:39**	10:11	9H27M
8	🌖	07:43	**04:29**	**08:52**	11:23	8H46M	07:39	**05:00**	**09:20**	11:21	9H21M	07:09	**04:35**	**08:54**	10:50	9H26M
9	🌖	07:44	**04:29**	**10:08**	11:48	8H45M	07:40	**05:00**	**10:32**	11:51	9H20M	07:09	**04:35**	**10:05**	11:21	9H26M
10	🌖	07:45	**04:29**	**11:20**	**12:08**	8H44M	07:41	**05:00**	**11:39**	**12:15**	9H19M	07:10	**04:35**	**11:11**	11:46	9H25M
11	🌗	07:45	**04:29**	–	**12:26**	8H44M	07:42	**05:00**	–	**12:37**	9H18M	07:11	**04:36**	–	**12:08**	9H25M
12	🌘	07:46	**04:30**	12:29	**12:41**	8H44M	07:43	**05:00**	12:43	**12:57**	9H17M	07:12	**04:36**	12:14	**12:29**	9H24M
13	🌘	07:47	**04:30**	01:35	**12:57**	8H43M	07:43	**05:00**	01:45	**01:16**	9H17M	07:13	**04:36**	01:16	**12:49**	9H23M
14	🌘	07:48	**04:30**	02:40	**01:14**	8H42M	07:44	**05:01**	02:47	**01:37**	9H17M	07:13	**04:36**	02:16	**01:11**	9H23M
15	🌘	07:49	**04:30**	03:46	**01:34**	8H41M	07:45	**05:01**	03:48	**02:01**	9H16M	07:14	**04:36**	03:17	**01:35**	9H22M
16	🌘	07:49	**04:30**	04:53	**01:57**	8H41M	07:46	**05:01**	04:51	**02:28**	9H15M	07:15	**04:37**	04:19	**02:03**	9H22M
17	🌘	07:50	**04:31**	06:00	**02:26**	8H41M	07:46	**05:02**	05:54	**03:01**	9H16M	07:15	**04:37**	05:21	**02:36**	9H22M
18	🌘	07:51	**04:31**	07:04	**03:03**	8H40M	07:47	**05:02**	06:55	**03:41**	9H15M	07:16	**04:38**	06:22	**03:17**	9H22M
19	🌘	07:51	**04:31**	08:03	**03:50**	8H40M	07:47	**05:02**	07:52	**04:29**	9H15M	07:17	**04:38**	07:19	**04:05**	9H21M
20	🌑	07:52	**04:32**	08:54	**04:48**	8H40M	07:48	**05:03**	08:44	**05:25**	9H15M	07:17	**04:38**	08:11	**05:01**	9H21M

D.	P.	BILLINGS					SALT LAKE CITY					DENVER				
		✷ RISES	✷ SETS	☾ RISES	☾ SETS	LOD	✷ RISES	✷ SETS	☾ RISES	☾ SETS	LOD	✷ RISES	✷ SETS	☾ RISES	☾ SETS	LOD
21	◐	07:52	**04:32**	09:35	**05:52**	8H40M	07:48	**05:03**	09:27	**06:28**	9H15M	07:18	**04:39**	08:55	**06:03**	9H21M
22	◐	07:53	**04:33**	10:08	**07:02**	8H40M	07:49	**05:04**	10:03	**07:34**	9H15M	07:18	**04:39**	09:32	**07:08**	9H21M
23	◐	07:53	**04:33**	10:34	**08:13**	8H40M	07:49	**05:04**	10:34	**08:41**	9H15M	07:19	**04:40**	10:03	**08:14**	9H21M
24	◐	07:54	**04:34**	10:56	**09:25**	8H40M	07:50	**05:05**	10:59	**09:48**	9H15M	07:19	**04:41**	10:30	**09:20**	9H22M
25	◐	07:54	**04:35**	11:14	**10:36**	8H41M	07:50	**05:06**	11:23	**10:55**	9H16M	07:19	**04:41**	10:53	**10:26**	9H22M
26	◐	07:54	**04:35**	11:32	**11:49**	8H41M	07:50	**05:06**	11:44	–	9H16M	07:20	**04:42**	11:16	**11:33**	9H22M
27	◐	07:55	**04:36**	11:50	–	8H41M	07:51	**05:07**	**12:06**	12:02	9H16M	07:20	**04:43**	11:39	–	9H23M
28	◐	07:55	**04:37**	**12:09**	01:04	8H42M	07:51	**05:08**	**12:30**	01:13	9H17M	07:20	**04:43**	**12:03**	12:43	9H23M
29	◐	07:55	**04:38**	**12:32**	02:22	8H43M	07:51	**05:09**	**12:58**	02:26	9H18M	07:21	**04:44**	**12:32**	01:55	9H23M
30	◐	07:55	**04:39**	**01:01**	03:45	8H44M	07:51	**05:09**	**01:32**	03:43	9H18M	07:21	**04:45**	**01:06**	03:11	9H24M
31	◐	07:55	**04:40**	**01:39**	05:10	8H45M	07:52	**05:10**	**02:15**	05:03	9H18M	07:21	**04:46**	**01:50**	04:31	9H25M

D.	P.	PHOENIX					SEATTLE					LOS ANGELES				
		✷ RISES	✷ SETS	☾ RISES	☾ SETS	LOD	✷ RISES	✷ SETS	☾ RISES	☾ SETS	LOD	✷ RISES	✷ SETS	☾ RISES	☾ SETS	LOD
1	◐	07:15	**05:20**	**02:43**	03:21	10H5M	07:37	**04:20**	**02:00**	03:24	8H43M	06:41	**04:44**	**02:07**	02:48	10H3M
2	◐	07:15	**05:20**	**03:20**	04:34	10H5M	07:38	**04:19**	**02:24**	04:50	8H41M	06:42	**04:43**	**02:44**	04:01	10H1M
3	◐	07:16	**05:20**	**04:04**	05:50	10H4M	07:39	**04:19**	**02:56**	06:20	8H40M	06:42	**04:43**	**03:28**	05:17	10H1M
4	○	07:17	**05:20**	**04:59**	07:07	10H3M	07:41	**04:19**	**03:42**	07:49	8H38M	06:43	**04:43**	**04:23**	06:35	10H0M
5	◑	07:18	**05:20**	**06:03**	08:21	10H2M	07:42	**04:18**	**04:43**	09:08	8H36M	06:44	**04:43**	**05:27**	07:49	9H59M
6	◑	07:19	**05:20**	**07:15**	09:26	10H1M	07:43	**04:18**	**05:59**	10:10	8H35M	06:45	**04:43**	**06:39**	08:54	9H58M
7	◑	07:19	**05:20**	**08:28**	10:20	10H1M	07:44	**04:18**	**07:22**	10:54	8H34M	06:46	**04:44**	**07:52**	09:47	9H58M
8	◑	07:20	**05:20**	**09:38**	11:03	10H0M	07:45	**04:18**	**08:44**	11:26	8H33M	06:46	**04:44**	**09:03**	10:30	9H58M
9	◑	07:21	**05:21**	**10:44**	11:38	10H0M	07:46	**04:18**	**10:03**	11:49	8H32M	06:47	**04:44**	**10:09**	11:05	9H57M
10	◑	07:22	**05:21**	**11:46**	**12:08**	9H59M	07:47	**04:18**	**11:16**	**12:07**	8H31M	06:48	**04:44**	**11:11**	11:34	9H56M
11	◑	07:22	**05:21**	–	**12:35**	9H59M	07:48	**04:18**	–	**12:22**	8H30M	06:49	**04:44**	–	**12:00**	9H55M
12	◑	07:23	**05:21**	12:44	**12:59**	9H58M	07:49	**04:18**	12:26	**12:37**	8H29M	06:49	**04:44**	12:10	**12:24**	9H55M
13	◑	07:24	**05:21**	01:41	**01:24**	9H57M	07:50	**04:18**	01:34	**12:51**	8H28M	06:50	**04:45**	01:07	**12:49**	9H55M
14	◑	07:24	**05:22**	02:38	**01:50**	9H58M	07:50	**04:18**	02:42	**01:06**	8H28M	06:51	**04:45**	02:04	**01:14**	9H54M
15	◑	07:25	**05:22**	03:35	**02:18**	9H57M	07:51	**04:18**	03:49	**01:24**	8H27M	06:51	**04:45**	03:01	**01:42**	9H54M
16	◑	07:26	**05:22**	04:33	**02:49**	9H56M	07:52	**04:18**	04:58	**01:46**	8H26M	06:52	**04:46**	04:00	**02:13**	9H54M
17	◑	07:26	**05:23**	05:31	**03:26**	9H57M	07:53	**04:19**	06:06	**02:14**	8H26M	06:53	**04:46**	04:58	**02:49**	9H53M
18	◑	07:27	**05:23**	06:29	**04:09**	9H56M	07:53	**04:19**	07:12	**02:50**	8H26M	06:53	**04:46**	05:57	**03:32**	9H53M
19	◑	07:27	**05:24**	07:25	**04:58**	9H57M	07:54	**04:20**	08:11	**03:37**	8H26M	06:54	**04:47**	06:53	**04:22**	9H53M
20	●	07:28	**05:24**	08:17	**05:53**	9H56M	07:54	**04:20**	09:01	**04:35**	8H26M	06:54	**04:47**	07:44	**05:17**	9H53M
21	◐	07:29	**05:25**	09:03	**06:53**	9H56M	07:55	**04:20**	09:41	**05:42**	8H25M	06:55	**04:48**	08:30	**06:17**	9H53M
22	◐	07:29	**05:25**	09:43	**07:55**	9H56M	07:55	**04:21**	10:12	**06:53**	8H26M	06:55	**04:48**	09:09	**07:19**	9H53M
23	◐	07:29	**05:26**	10:17	**08:57**	9H57M	07:56	**04:22**	10:36	**08:06**	8H26M	06:56	**04:49**	09:44	**08:21**	9H53M
24	◐	07:30	**05:26**	10:48	**09:58**	9H56M	07:56	**04:22**	10:56	**09:20**	8H26M	06:56	**04:50**	10:14	**09:23**	9H54M
25	◐	07:30	**05:27**	11:16	**11:00**	9H57M	07:57	**04:23**	11:13	**10:33**	8H26M	06:57	**04:50**	10:42	**10:25**	9H53M
26	◐	07:31	**05:28**	11:43	–	9H57M	07:57	**04:24**	11:29	**11:48**	8H27M	06:57	**04:51**	11:09	**11:28**	9H54M
27	◐	07:31	**05:28**	**12:11**	12:02	9H57M	07:57	**04:24**	11:44	–	8H27M	06:57	**04:51**	11:36	–	9H54M
28	◐	07:31	**05:29**	**12:40**	01:07	9H58M	07:57	**04:25**	**12:02**	01:04	8H28M	06:58	**04:52**	**12:05**	12:33	9H54M
29	◐	07:32	**05:30**	**01:13**	02:14	9H58M	07:57	**04:26**	**12:23**	02:25	8H29M	06:58	**04:53**	**12:37**	01:41	9H55M
30	◐	07:32	**05:30**	**01:53**	03:26	9H58M	07:57	**04:27**	**12:50**	03:50	8H30M	06:58	**04:53**	**01:16**	02:53	9H55M
31	◐	07:32	**05:31**	**02:41**	04:40	9H59M	07:58	**04:28**	**01:27**	05:17	8H30M	06:58	**04:54**	**02:04**	04:08	9H56M



2025 Meteor Showers

Meteor showers are spectacular events in which numerous shooting stars light up the night sky. These shooting stars are, in fact, meteoroids, pieces of cosmic debris left behind in the wake of comets or asteroids. As the Earth passes through these debris in its orbit around the Sun, they enter our atmosphere at very high speeds and incinerate during entry, causing the spectacle of meteor showers. (Meteoroids are called "meteors" only once they enter the atmosphere in this way.) Meteor showers generally have an associated comet or asteroid, which is responsible for leaving behind a dust cloud in which meteors are found. The most prominent meteor showers are periodic, occurring every year around the same time when the Earth returns to the point in its orbit where it intercepts its corresponding dust cloud.

Below, you can find the most prominent annual meteor showers with their relevant information. The showers are generally visible for one or two weeks before and after their listed peak date. The radiant constellation indicates which constellation the meteors will appear to originate from.

METEOR SHOWER	PEAK DATE	METEORS PER HOUR	RADIANT CONSTELLATION	COMET (OR ASTEROID)
Quadrantids	Jan 4	120	Boötes	2003 EH*
Lyrids	Apr 22	20	Lyra	C/1861 G1 (Thatcher)
Eta Aquarids	May 5	55	Aquarius	1P/Halley
Southern Delta Aquarids	Jul 30	20	Aquarius	96P/Machholz?
Perseids	Aug 12	100	Perseus	109P/Swift-Tuttle
Orionids	Oct 20	20	Orion	1P/Halley
Leonids	Nov 18	15	Leo	55P/Tempel-Tuttle
Geminids	Dec 13	120	Gemini	3200 Phaethon*
Ursids	Dec 22	10	Ursa Minor	8P/Tuttle

***asteroid**

VIEWING TIPS: To make sure you have the best view of a meteor shower, try to find a location with a dark sky and minimal light pollution. Keep in mind that the brightness of the moon can also interfere with the visibility of meteor showers. Pay attention to the expected meteors-per-hour count, and keep in mind that the actual count may be less if there is moonlight, or you're not in a dark, rural place. Try to watch for an hour or longer to allow your eyes to adapt to the dark. By planning ahead and choosing the right time and place to observe them, you can enjoy the spectacular display of these cosmic light shows!

Sources: American Meteor Society, International Meteor Organization

Visible Planets

The word “planet” comes from the Greek word for “wanderer.” Unlike stars, which remain fixed in the sky with respect to each other and take recognizable shapes as constellations, the planets were first identified by ancient observers as wandering bright objects in the night sky.

To find a planet, look for a bright point that doesn’t twinkle. Unlike stars, planets don’t twinkle because they’re much closer to us than stars and therefore their light is not as affected by the Earth’s atmosphere. All planets, including Earth, orbit the sun at different distances. We can divide the planets into two categories based on this: the inferior planets, which are closer to the sun than Earth, and the superior planets, which are farther away. This distinction is relevant to how we observe the planets in the night sky.

THE INFERIOR PLANETS

The inferior planets, Mercury and Venus, are those that orbit closer to the sun than the Earth does. Because of their orbits, these planets always appear close to the sun in the sky. They can be observed during twilight or near the beginning or end of the night, but never in the middle of night. They also intermittently disappear from view when they’re in solar conjunction (behind or in front of the sun), so they’re viewable only for certain periods of the year. We call these periods apparitions. During an apparition, the moment of greatest elongation is when the planet is most distant from the sun; this is the best time to view it during twilight.

MERCURY, the closest planet to the sun, is named after the Roman god Mercurius, the messenger of the gods. Because of its proximity to the sun, Mercury is often difficult to spot, visible only during twilight hours—shortly before sunrise or just after sunset. Its faintness and this brief window of visibility make it the least prominent of the visible planets. Mercury is viewable only during its yearly apparitions. Between these apparitions, it’s too close to the sun to be viewable at all from Earth. Below are the apparitions of Mercury for 2025. Apparition dates roughly correspond to times when Mercury is 15 degrees or more away from the sun. If an apparition is listed as “Morning,” Mercury can be seen right before sunrise, and if “Evening,” just after sunset. In both cases, look for the planet as a white dot just above the horizon in the direction of the sunrise/sunset.

APPARITION DATES	WHEN TO VIEW?	GREATEST ELONGATION
February 28 to March 14	EVENING	MARCH 7
April 2 to May 16	MORNING	APRIL 21
June 11 to July 22	EVENING	JULY 3
August 11 to 28	MORNING	AUGUST 19
October 4 to November 12	EVENING	OCTOBER 29
November 27 to December 25	MORNING	DECEMBER 7

VENUS is the brightest object in the sky after the sun and the moon, and consequently has played an important role in various cultures. Named after the Roman goddess of love and beauty, we know today that Venus’ brightness is due to thick cloud layers that reflect the light it receives from the sun, as well as its proximity to Earth. It has historically been called the “evening star” or “morning star” because it always stays close to the sun in the sky throughout the year. Like Mercury, Venus is best viewed during twilight hours, after sunset or before sunrise, when it can be found low on the horizon. Below are the apparitions of Venus for 2025. Apparition dates roughly correspond to times when

Venus is 15 degrees or more away from the sun. This year, Venus will be observable in the morning during the first few months of the year, and in the evening for most of the remaining part of the year.

APPARITION DATES	WHEN TO VIEW?	GREATEST ELONGATION
Beginning of year until March 14	MORNING	JANUARY 10
March 3 to November 6	EVENING	MAY 31

THE SUPERIOR PLANETS

The superior planets are those that orbit the sun beyond Earth's orbit: Mars, Jupiter, Saturn, Uranus and Neptune. Unlike the inferior planets, the superior planets can be found anywhere in the sky throughout the year. Their apparitions are longer than a year, so they're generally viewable in the night sky. Additionally, they can enter opposition, the moment in which they're opposite the sun in the sky and at their brightest.

MARS, known as the Red Planet, is striking in the sky thanks to its reddish hue, which usually looks more orange or orange-red than a true red and is due to the iron oxide dust that covers the planet. Mars is named after the Roman god of war. Mars will be at opposition January 16, the best time to view it. It will be visible throughout the year, although it may not be viewable in December as it starts to move closer to the sun, reaching solar conjunction in the beginning of 2026.

JUPITER, the biggest planet in the solar system, is easy to find because it will always shine brighter than any star, being the second-brightest planet after Venus. Named after the king of the Roman gods, Jupiter is known for its Great Red Spot, the massive storm that can be seen on its surface, as well as its numerous moons. These features are visible even with a simple telescope, and well worth observing. You can find Jupiter in the constellation Taurus for the first half of this year and in the constellation Gemini for the second half. Jupiter won't be viewable in the weeks around June 24, when it will be in solar conjunction, but will be viewable the rest of the year.

SATURN, best known for its majestic ring system, is the second-largest planet in the solar system. Named after the Roman god for agriculture and time, the weekday Saturday is in turn named after the planet Saturn. Its spectacular rings can be observed through a simple telescope. Saturn will begin the year in Aquarius, will move into Pisces in April and stay there until October, then move back to Aquarius for the final stretch of the year. The Ringed Planet will be in solar conjunction March 12 and not viewable for the few weeks around this date. Saturn will reach its moment of opposition September 21, when it will be at its brightest and visible throughout the night.

WHAT ABOUT THE REMAINING PLANETS?

Neptune and Uranus, together known as the "Ice Giants," fill out the roster of planets in our solar system. They're the outermost planets, farthest from the sun, and aren't visible with the naked eye. For this reason, they were not discovered until well after the invention of the telescope. Both planets are gas giants, like Jupiter and Saturn, but their colder temperatures, as well as their composition, distinguish them from the regular gas giants, Jupiter and Saturn.

WHAT ABOUT PLUTO?

Discovered in 1930, Pluto was initially considered the ninth planet in our solar system. However, with the discovery of more similar-sized objects, the definition of a planet came under scrutiny. In 2006, the International Astronomical Union redefined a planet as a body that orbits the sun, is spherical, and has cleared its orbit of debris. Pluto, sharing its space with other objects such as asteroids, did not meet the third criterion and was reclassified as a "dwarf planet." Thus, the solar system is now back to officially having eight planets instead of nine.

Bright Star Transits

A **transit** refers to the moment in which a star reaches the highest point in the sky it will reach during a given night. It is called as such because this is the moment in which the star transits the **meridian**, the imaginary line that goes from north to south across the sky. The table below includes the transit times for 17 bright stars, given in Eastern Time for the location of New York City. The times given account for daylight saving when in force (March 9 through November 2).

Star	Constellation	January 1	March 1	May 1	July 1	September 1	November 1
Adhara	Canis Major	12:11	**08:15**	**05:15**	**01:16**	09:12	05:12
Aldebaran	Taurus	**09:45**	**05:53**	**02:54**	10:54	06:50	02:50
Altair	Aquila	**01:01**	09:09	06:10	02:10	**10:02**	**06:02**
Antares	Scorpius	09:41	05:49	02:49	**10:45**	**06:42**	**02:42**
Arcturus	Boötes	07:27	03:35	12:31	**08:32**	**04:28**	**12:28**
Betelgeuse	Orion	**11:04**	**07:12**	**04:13**	**12:13**	08:09	04:09
Capella	Auriga	**10:26**	**06:35**	**03:35**	11:35	07:31	03:31
Deneb	Cygnus	**01:52**	10:00	07:00	03:00	**10:52**	**06:52**
Fomalhaut	Piscis Austrinus	**04:08**	**12:16**	09:16	05:16	01:13	**09:09**
Polaris	Ursa Minor	**08:13**	**04:20**	**01:19**	09:20	05:18	01:20
Pollux	Gemini	12:58	**09:02**	**06:03**	**02:03**	09:59	05:59
Procyon	Canis Minor	12:52	**08:56**	**05:56**	**01:56**	09:53	05:53
Regulus	Leo	03:21	**11:25**	**08:25**	**04:25**	**12:21**	08:22
Rigel	Orion	**10:24**	**06:32**	**03:32**	11:32	07:28	03:28
Sirius	Canis Majoris	**11:54**	**08:02**	**05:02**	**01:02**	08:59	04:59
Spica	Virgo	06:37	02:45	**11:41**	**07:41**	**03:38**	11:38
Vega	Lyra	11:47	07:55	04:56	12:52	**08:48**	**04:48**

***Bold indicates PM time**

The transit time for a star will occur about 4 minutes earlier each consecutive day. You can use this table to find out the time of transit on a given day by subtracting 4 minutes for each day after one of the given dates. To find the time of transit for a bright star from a different location, use the legend below to add an offset time. Remember to first subtract the 4 minutes per day before adding the offset. For example, to find the time of transit of Vega over Orlando on January 15, one would first subtract 4 minutes x 14 days = 56 minutes from the time listed above, then add 29 minutes for the offset from the table below, for a final transit time of 11:20.

CITY	OFFSET FROM NEW YORK
NEW YORK	0 MINUTES
RICHMOND	14 MINUTES
ATLANTA	41 MINUTES
ORLANDO	29 MINUTES
MINNEAPOLIS	17 MINUTES
CHICAGO	-6 MINUTES
KANSAS CITY	22 MINUTES
MEMPHIS	4 MINUTES
SAN ANTONIO	38 MINUTES
BILLINGS	18 MINUTES
SALT LAKE CITY	31 MINUTES
DENVER	4 MINUTES
PHOENIX	32 MINUTES*
SEATTLE	13 MINUTES
LOS ANGELES	-4 MINUTES

***Between March 9 and November 2, the offset for Phoenix is -28 minutes, because Arizona does not observe daylight saving.**

Bright Star Rise and Set

The table below shows the rise and set intervals for bright stars as seen from the reference cities in this almanac. **To find the time of a star's rising**, subtract the interval in this table from the transit time of the star. (See Bright Stars Transit table.) **To find the time of a star's setting**, add the interval time to the transit time. A dash (–) indicates that the star never sets from the point of view of a given city. **Polaris**, the north star, is always visible from the Northern Hemisphere due to its proximity to the celestial north pole, so it is not included in this table because it never rises or sets. The stars **Capella**, **Deneb** and **Vega** are northern stars that are up in the sky most of the time, but they still set for a few hours every day.

Star	New York	Richmond	Atlanta	Orlando	Minneapolis	Chicago	Kansas City	Memphis	San Antonio	Billings	Salt Lake City	Denver	Phoenix	Seattle	Los Angeles
Adhara	4h9m	4h22m	4h35m	4h52m	3h49m	4h4m	4h15m	4h30m	4h49m	3h44m	4h9m	4h13m	4h36m	3h34m	4h34m
Aldebaran	7h1m	6h54m	6h47m	6h38m	7h11m	7h3m	6h57m	6h50m	6h40m	7h13m	7h1m	6h59m	6h47m	7h18m	6h48m
Altair	6h33m	6h29m	6h25m	6h21m	6h38m	6h34m	6h31m	6h27m	6h21m	6h39m	6h33m	6h31m	6h25m	6h42m	6h26m
Antares	4h21m	4h32m	4h44m	4h59m	4h3m	4h16m	4h27m	4h40m	4h56m	4h0m	4h21m	4h24m	4h45m	3h51m	4h43m
Arcturus	7h11m	7h3m	6h55m	6h44m	7h23m	7h14m	7h7m	6h58m	6h46m	7h25m	7h11m	7h8m	6h54m	7h31m	6h55m
Betelgeuse	6h27m	6h24m	6h21m	6h17m	6h32m	6h28m	6h26m	6h22m	6h18m	6h32m	6h27m	6h26m	6h21m	6h35m	6h21m
Capella	10h20m	9h36m	8h59m	8h20m	–	10h44m	9h55m	9h11m	8h26m	–	10h21m	10h4m	8h56m	–	9h1m
Deneb	10h9m	9h29m	8h54m	8h16m	–	10h30m	9h47m	9h6m	8h22m	–	10h10m	9h55m	8h51m	–	8h56m
Fomalhaut	4h6m	4h19m	4h33m	4h50m	3h46m	4h1m	4h13m	4h28m	4h47m	3h41m	4h6m	4h10m	4h34m	3h31m	4h32m
Pollux	7h51m	7h38m	7h25m	7h9m	8h11m	7h56m	7h44m	7h29m	7h11m	8h15m	7h51m	7h47m	7h24m	8h25m	7h26m
Procyon	6h19m	6h17m	6h15m	6h12m	6h22m	6h20m	6h18m	6h16m	6h13m	6h23m	6h19m	6h19m	6h15m	6h25m	6h15m
Regulus	6h43m	6h38m	6h33m	6h27m	6h50m	6h45m	6h41m	6h35m	6h28m	6h52m	6h43m	6h42m	6h33m	6h55m	6h34m
Rigel	5h33m	5h36m	5h39m	5h43m	5h29m	5h32m	5h35m	5h38m	5h43m	5h28m	5h33m	5h34m	5h40m	5h26m	5h39m
Sirius	5h2m	5h8m	5h15m	5h24m	4h52m	4h59m	5h5m	5h13m	5h22m	4h50m	5h2m	5h4m	5h16m	4h45m	5h15m
Spica	5h22m	5h26m	5h31m	5h36m	5h16m	5h21m	5h24m	5h29m	5h35m	5h15m	5h22m	5h23m	5h31m	5h12m	5h30m
Vega	8h59m	8h35m	8h12m	7h46m	9h39m	9h8m	8h46m	8h20m	7h50m	9h48m	8h59m	8h51m	8h11m	10h14m	8h14m

Astronomical Twilight Hours

Twilight refers to the period before sunrise and after sunset in which the sky is partially illuminated with sunlight even though the sun is below the horizon. This phenomenon occurs because sunlight is scattered and refracted by the Earth's atmosphere. It lasts from dawn until sunrise in the morning and from sunset to dusk in the evenings.

Twilight is defined as occurring in three phases. **Civil Twilight** occurs when the sun is between 0 and 6 degrees below the horizon. During this time there's enough light for outdoor activities. **Nautical Twilight**, named after its use for navigation, occurs when the sun is between 6 and 12 degrees below the horizon. **Astronomical Twilight** occurs when the sun is between 12 and 18 degrees below the horizon. Once astronomical twilight and the sun is more than 18 degrees below the horizon, the sky becomes dark enough for astronomical observations with the naked eye or a telescope.

It's important to know when astronomical twilight begins and ends to know the ideal times for observing astronomical phenomena without sunlight contamination. Here you can find the length of astronomical twilight for different cities. To determine the arrival of dawn, find the sunrise time for your city for the day of interest and subtract the length of twilight. To determine the arrival of dusk, find the sunset time and add the length of twilight. If your city is not listed, look for the closest latitude to your own. Length of twilight changes with latitude, not longitude.

City	Jan 1 - Apr 7	Apr 7 - Apr 29	Apr 29 - May 1	May 1 - May 22	May 22 - Jun 11	Jun 11 - Jun 30	Jun 30 - Jul 19	Jul 19 - Jul 31	Jul 31 - Aug 11	Aug 11 - Sep 2	Sep 2 - Dec 27
New York	1h38m	1h44m	1h52m	1h58m	2h06m	2h11m	2h07m	1h59m	1h53m	1h45m	1h39m
Richmond	1h34m	1h38m	1h44m	1h49m	1h55m	1h59m	1h56m	1h50m	1h45m	1h39m	1h34m
Atlanta	1h29m	1h32m	1h37m	1h41m	1h46m	1h48m	1h46m	1h42m	1h38m	1h33m	1h30m
Orlando	1h24m	1h26m	1h30m	1h33m	1h36m	1h38m	1h37m	1h34m	1h31m	1h27m	1h25m
Minneapolis	1h46m	1h54m	2h05m	2h15m	2h29m	2h38m	2h30m	2h17m	2h07m	1h56m	1h47m
Chicago	1h40m	1h46m	1h55m	2h02m	2h11m	2h17m	2h12m	2h03m	1h56m	1h48m	1h41m
Kansas City	1h36m	1h41m	1h48m	1h53m	2h00m	2h05m	2h01m	1h54m	1h49m	1h42m	1h36m
Memphis	1h31m	1h34m	1h40m	1h44m	1h49m	1h52m	1h50m	1h45m	1h41m	1h35m	1h31m
San Antonio	1h25m	1h27m	1h31m	1h34m	1h38m	1h40m	1h38m	1h35m	1h32m	1h28m	1h25m
Billings	1h47m	1h56m	2h09m	2h19m	2h35m	2h46m	2h37m	2h21m	2h10m	1h58m	1h48m
Salt Lake City	1h38m	1h44m	1h52m	1h58m	2h07m	2h12m	2h07m	2h00m	1h53m	1h45m	1h39m
Denver	1h37m	1h42m	1h49m	1h55m	2h03m	2h07m	2h03m	1h56m	1h50m	1h43m	1h37m
Phoenix	1h29m	1h32m	1h37m	1h41m	1h45m	1h48m	1h46m	1h41m	1h38m	1h33m	1h29m
Seattle	1h51m	2h02m	2h17m	2h31m	2h54m	3h13m	2h56m	2h34m	2h19m	2h04m	1h52m
Los Angeles	1h29m	1h33m	1h38m	1h42m	1h47m	1h49m	1h47m	1h43m	1h39m	1h34m	1h30m

Glossary of Astronomical Terms

ALTITUDE: The height of an object in the sky above the horizon, measured in degrees. An object just at the horizon has an altitude of 0°, and this value increases as an object moves up in the sky, with a maximum value of 90° when the object is just overhead, at zenith.

APPARITION: The period of time during which a planet is visible from Earth. An apparition begins when a planet moves away from the sun, becoming visible in the twilight sky, and ends when the planet eventually moves too close to the sun to be observable. The length of each planet's apparitions depends on its orbit and brightness.

CELESTIAL POLE (NORTH, SOUTH): Refers to the points of the sky around which stars appear to rotate, corresponding to the Earth's axis. In the Northern Hemisphere, the celestial north pole lies very close to the star Polaris.

CELESTIAL SPHERE: The imaginary sphere of the sky on which all stars, planets and celestial objects are observed. It's a useful concept for astronomers and navigators to track the movement and positions of objects in the sky.

CIRCUMPOLAR: Refers to stars or objects that are close to a celestial pole and, as a result, never set below the horizon when viewed from their respective hemisphere (northern hemisphere for the celestial north pole, southern hemisphere for the celestial south pole).

CONJUNCTION: The moment in which two celestial bodies approach and become closest to each other in the sky.

CONSTELLATION: A group of stars forming a recognizable form or pattern, traditionally named after animals or figures from mythology. Constellations also are used to refer to the area of the sky that they occupy.

DEGREE: Unit of measurement used to indicate positions or angular distances in the sky. One degree is 1/360th of a full circle, with 360 degrees making up an entire turn around the sky. To approximate measurement of degrees, hold your thumb out at arm's length against the sky; it will cover about 2 degrees.

ECLIPSE: When one celestial body moves into the shadow of another. In a solar eclipse, the moon passes in front of the sun as viewed from Earth, casting a shadow on the Earth. In a lunar eclipse, the Earth passes between the sun and the moon, and casts a shadow on the moon.

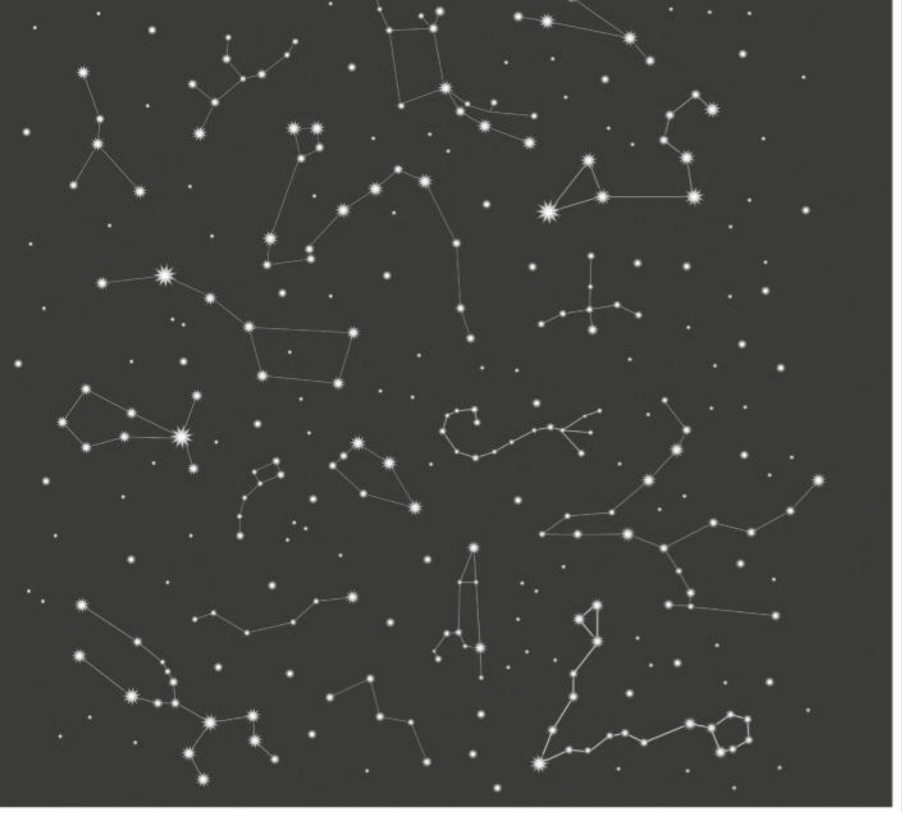
EQUATOR: The imaginary line around the Earth at an equal distance from the north and south poles. It divides the Earth into the northern and southern hemispheres.

EQUINOX: The two times of the year in which the sun is directly above the equator. This results in nearly equal day and night lengths of about 12 hours each.

HORIZON: The boundary where the sky meets the Earth from a given point of view, visible when looking straight out in any direction.

LATITUDE: The measurement of how far north or south a location is from the equator, measured in degrees. The equator is at 0° latitude, and the poles at 90° north or south.

LONGITUDE: The measurement of how far east or west a location is from the prime meridian, an imaginary line that runs from the north pole to the south pole and through Greenwich, England. Greenwich is used as a reference for historical reasons and lies at 0° longitude.



MERIDIAN: An imaginary line that goes from the north celestial pole to the south celestial pole, passing directly overhead at a given location.

METEOR: A bright, momentary streak of light in the night sky caused by a piece of cosmic debris burning up as it enters the atmosphere. Colloquially called a "shooting star."

OCCULTATION: When one celestial body passes in front of another, hiding it from view. Typically occurs when the moon covers another celestial object.

OPPOSITION: When a planet is directly opposite the sun in the sky as viewed from the Earth. In this moment, the planet is up in the sky throughout the night, reaching highest altitude around midnight. This is usually the best time to observe a planet, because it will be at its brightest.

PHASES (OF THE MOON): The appearance of the illuminated fraction of the moon, as seen from Earth. The phases of the moon occur in stages, from new moon to full moon and back.

SOLSTICE: The two times of the year in which the sun reaches its highest or lowest point in the sky with respect to the equator, marking the start of summer or winter.

SUPERMOON: A full moon or a new moon that occurs almost at the same time as when the moon is closest to Earth in its orbit. This makes the moon appear larger and brighter than usual.

TRANSIT: The moment when a celestial object crosses the meridian, reaching its highest altitude in the sky for a given night.

ZENITH: The point in the sky directly overhead, at an altitude of 90°.

reference

for people who need a quick reminder

CALENDAR

2025

JANUARY

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

FEBRUARY

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	

MARCH

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

APRIL

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

MAY

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

JUNE

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

JULY

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

AUGUST

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

SEPTEMBER

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

OCTOBER

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

NOVEMBER

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

DECEMBER

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

2026

JANUARY

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

FEBRUARY

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

MARCH

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

APRIL

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

MAY

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

JUNE

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

JULY

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

AUGUST

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

SEPTEMBER

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

OCTOBER

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

NOVEMBER

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

DECEMBER

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

2027

JANUARY

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

FEBRUARY

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28						

MARCH

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

APRIL

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

MAY

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

JUNE

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

JULY

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

AUGUST

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

SEPTEMBER

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

OCTOBER

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

NOVEMBER

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

DECEMBER

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

2028

JANUARY

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

FEBRUARY

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29				

MARCH

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

APRIL

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

MAY

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

JUNE

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

JULY

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

AUGUST

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

SEPTEMBER

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

OCTOBER

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

NOVEMBER

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

DECEMBER

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

U.S. to Metric Conversions

LENGTH / DISTANCE

U.S.	EQUALS	METRIC
1 inch		2.54 centimeters
1 foot	12 inches	.3048 meters
1 yard	3 feet	.9144 meters
1 mile	5,280 feet	1.6093 kilometers

METRIC	EQUALS	U.S.
1 millimeter		.0394 inch
1 centimeter	10 millimeters	.3937 inch
1 meter	100 centimeters	3.281 feet
1 kilometer	1,000 meters	.6214 miles

SQUARE MEASURE / AREA

U.S.	EQUALS	METRIC
1 sq. inch		6.4516 sq. centimeters
1 sq. foot	144 sq. inches	929 sq. centimeters
1 sq. yard	9 sq. feet	.8361 sq. meters
1 acre	43,560 sq. feet	4,046.9 sq. meters
1 sq. mile	640 acres	2.590 sq. kilometers

METRIC	EQUALS	U.S.
1 sq. centimeter		.1550 sq. inches
1 sq. meter	10,000 sq. centimeters	10.765 sq. feet
1 hectare	10,000 sq. meters	2.4711 acres
1 sq. kilometer	100 hectares	.3861 sq. mile

CUBIC MEASURE / VOLUME AND CAPACITY

U.S.	EQUALS	METRIC
1 cubic inch		16.4 cubic centimeters
1 cubic foot	1,728 cubic inches	28316 cubic centimeters
1 cubic yard	27 cubic feet	.765 cubic meters
1 fluid oz.		29.574 milliliters
1 cup	8 fluid oz.	236.59 milliliters
1 fluid pint	16 fluid oz.	473.18 milliliters
1 fluid quart	32 fluid oz.	946.36 milliliters
1 fluid gallon	4 quarts	3.785 liters

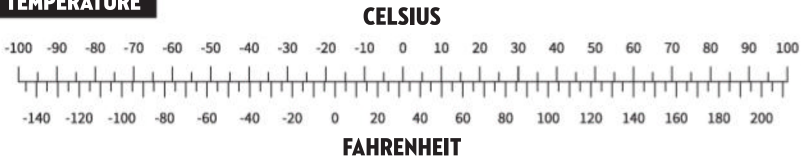
METRIC	EQUALS	U.S.
1 cubic centimeter	1 milliliter	.0610 cubic inch
1 cubic meter	1,000,000 cubic cm.	1.308 cubic yards
1 milliliter	1 cubic centimeter	.034 fluid oz.
1 liter	1,000 milliliters	1.057 quarts

MASS / WEIGHT

U.S.	EQUALS	METRIC
1 oz.		28.35 grams
1 pound	16 oz.	453.6 grams
1 ton	2,000 lbs.	.907 metric ton

METRIC	EQUALS	U.S.
1 milligram		.000035 oz.
1 gram	1,000 milligrams	.035 oz.
1 kilogram	1,000 grams	2.205 lb.
1 metric ton	1,000 kilograms	2,205 lb.

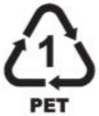
TEMPERATURE



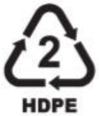
Plastics Recycling Numbers

The familiar triangular, chasing-arrows symbol, typically located on the undersides of plastic containers, are sorted into seven categories indicating the type of plastic, marked by corresponding numbers. Generally (not always), the higher the number, the more difficult it is for the material to be recycled. By knowing these numbers, you'll be better equipped to use local recycling services.

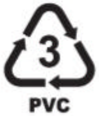
1 PETE OR PET: This symbol represents polyethylene terephthalate, commonly used for disposable water and soft drink bottles, cooking oil containers, and prepared and frozen food containers. This plastic is easily recyclable, so it's often part of curbside recycling programs. It can be reused to make containers, carpet and furniture.



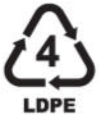
2 HDPE: This symbol represents high-density polyethylene, one of the most commonly used plastics in the United States due to its low weight and high strength. A nontransparent plastic, it's commonly found in milk jugs, detergent jugs, household cleaner containers and some food containers. It's widely accepted by curbside recycling and can be easily recycled.



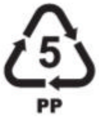
3 PVC OR V: This symbol represents polyvinyl chloride. This type of plastic can be found in children's toys, trays and a variety of commercial applications. PVC is more difficult to recycle than PET and HDPE and is not usually part of curbside recycling programs.



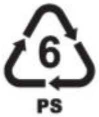
4 LDPE: This symbol represents low-density polyethylene, a soft, flexible type of plastic commonly used to make thin plastic bags such as those provided by supermarkets. Such material can clog up recycling machinery, so check to make sure it's accepted locally. If not, supermarkets often accept the bags for recycling. It can be converted into floor tiles and shipping envelopes.



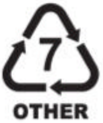
5 PP: This symbol represents polypropylene, found in straws, soft-drink cups, yogurt containers and medicine bottles. Due to its durability and low weight, it's also utilized in toys, luggage, furniture and some car parts. PP plastic can be recycled, and is increasingly accepted in curbside programs, but check to make sure.



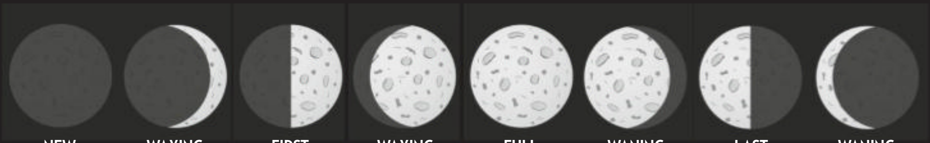
6 PS: This symbol represents polystyrene, also known as Styrofoam. It's commonly found in takeout containers, packing materials and disposable cups. It's generally not accepted within recycling programs, but can be remade into new takeout containers and egg cartons.



7 OTHER: This symbol represents other plastics, including bisphenol A (BPA), polycarbonate, acrylic plastic, nylon and fiberglass. Polycarbonate and acrylic, both thermoplastics, can be reheated without a loss in quality and therefore repurposed for future use, but the others often are not recyclable. For all symbol 7 plastics, confirm with your local recycling program or find an alternate outlet for recycling.



Full Moon Names



Full moons have been given various names across different cultures and traditions, often based on natural events or activities that occur during that time of year. Below is a list of traditional names for each full moon, primarily derived from Native American, Colonial American and European traditions, along with the reasons for the names:

JANUARY / WOLF MOON
Named after the howling of hungry wolves in midwinter, particularly in Native American cultures.

FEBRUARY / SNOW MOON
Named for the heavy snowfall that often occurs in this month. Also known as Hunger Moon due to scarce food sources during harsh winters.

MARCH / WORM MOON
As the ground begins to thaw, earthworms reappear, signaling the approaching spring.

APRIL / PINK MOON The moon doesn't take on a pink hue. Instead, this full moon is named after the pink wildflowers, specifically phlox, that bloom in early spring.

MAY / FLOWER MOON Named for the abundance of flowers that bloom during this month, celebrating the height of spring.

JUNE / STRAWBERRY MOON
This name comes from the Algonquin tribes, as it marks the season for harvesting ripe wild strawberries.

JULY / BUCK MOON Named because it's the time when new antlers emerge on buck deer, covered in velvety fur.

AUGUST / STURGEON MOON
Named by the Algonquin tribes because sturgeon, a large fish of the Great Lakes, were more readily caught during this month.

SEPTEMBER / HARVEST MOON The full moon closest to the autumn equinox provides extra light for farmers to continue their harvest into the evening.

OCTOBER / HUNTER'S MOON
Following the harvest, this was a return to hunting to provide meat for winter. The full moon provided light for hunters in the evening.

NOVEMBER / BEAVER MOON
Named because it was the time to set beaver traps before the swamps froze, ensuring a supply of warm winter furs.

DECEMBER / COLD MOON
This moon marks the onset of the coldest time of the year, as winter begins to take hold.

OTHER MOONS

BLUE MOON Not linked to a specific month or a bluish hue, a blue moon refers to the second full moon in a calendar month. The phrase "once in a blue moon" refers to its rarity.

SUPERMOON Look, up in the sky! When a full moon coincides with the moon's closest approach to Earth in its orbit, it appears larger and brighter than usual.

MICRO MOON This is when the full moon occurs at or near the point in its orbit where it is farthest from the Earth, making it appear smaller than usual.

Animal Group Names

Antelope: herd
Ants: colony, army

Apes: shrewdness
Baboons: troop
Badgers: cete
Bass: shoal

Bats: colony, cloud, cauldron
Bears: sloth, sleuth
Beavers: colony
Bees: swarm
Boars: sounder
Buffalo: gang or obstinacy
Camels: caravan

Caterpillars: army
Cats: clowder, glaring, pounce, nuisance, clutter
Cattle: herd, drove
Cheetahs: coalition
Chickens: brood or peep; **Chicks:** clutch, chattering
Clams: bed
Cobras: quiver
Colts: rag
Cows: kine, drove, herd, fold; dozen or more: flink
Coyotes: band
Cranes: sedge
Crocodiles: float, bask
Crows: murder
Deer: herd
Dogs: pack, cowardice

Dolphins: pod
Donkeys: drove
Doves: dule
Ducks: brace, paddling, team
Eagles: convocation
Elephants: herd, parade
Elk: gang, herd
Emus: mob
Falcons: cast
Ferrets: business, fesnyng
Finches: charm

Fish: school, shoal, run, haul, catch
Flamingos: stand, flamboyance
Flies: swarm, hatch, business
Foxes: skulk, leash

Frogs: army, colony
Geese: gaggle, flock; skein when in flight
Giraffes: tower
Gnats: cloud, horde
Goats: herd, tribe, trip

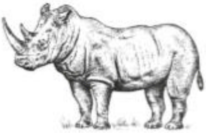
Goldfinches: charm
Goldfish: troubling
Gorillas: band
Grasshoppers: cloud
Greyhounds: leach
Hares: down, husk
Hawks: cast, kettle
Hippopotami: bloat, thunder
Hogs: drift, parcel
Horses: team, harras
Hounds: pack, mute, cry
Hyenas: cackle

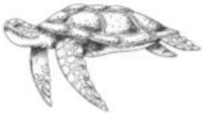
Jaguars: shadow
Jellyfish: smack, brood

Kangaroos: troop, mob
Larks: ascension, exaltation
Lemurs: conspiracy
Leopards: leap
Lice: flock
Lions: pride
Locust: plague, cloud
Magpies: tiding, tittering
Mallards: sord
Manatees: aggregation
Mares: stud
Martens: richness
Minnows: steam
Moles: labor
Monkeys: barrel, cartload, troop
Mules: pack, barren, span
Nightingales: watch

Otters: family, romp, raft
Owls: parliament
Oxen: team, yoke
Oysters: bed
Parrots: pandemonium, company
Partridges: covey
Peacocks: muster, ostentation
Penguins: colony
Pheasants: nest, nide, bouquet
Pigeons: flock, flights

Pigs: drift, drove (younger pigs), sounder, team (older pigs)
Ponies: string
Porcupines: prickle
Rabbits: colony, warren
Raccoons: gaze

Rats: colony, pack, swarm, mischief
Rattlesnakes: rhumba
Ravens: unkindness
Rhinoceroses: crash

Sharks: shiver
Sheep: drove, flock
Skunks: stench
Snakes: nest, knot
Sparrows: host
Squirrels: dray, scurry

Starlings: murmuration
Stingrays: fever
Storks: mustering
Swans: bevy, lamentation; wedge when in flight
Tigers: ambush, orstreak
Toads: knot, knab
Trout: hover
Turkeys: gang, posse, rafter

Turtles: bale, nest
Vultures: venue
Wasps: pledge
Weasels: colony, gang, pack
Whales: pod, school, gam
Wolves: pack, route
Wombats: wisdom
Woodpeckers: descent
Zebras: zeal

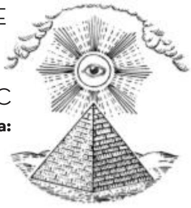
Major Historical Eras and Significant Sub-eras.*

PREHISTORIC ERA

- **Paleolithic (Old Stone Age):**
  2.5 million BCE to 10000 BCE
- **Mesolithic (Middle Stone Age):**
  10000 BCE to 8000 BCE
- **Neolithic (New Stone Age):**
  8000 BCE to 3000 BCE
- **Chalcolithic (Copper Age):**
  5000 BCE to 3000 BCE

ANCIENT HISTORY

- **Bronze Age:**
  3000 BCE to 1300 BCE
- **Iron Age:**
  1300 BCE to 600 BCE
- **Classical Antiquity:**
  - **Ancient Egypt:**
    3100 BCE to 332 BC
  - **Ancient Mesopotamia:**
    3500 BC to 539 BC
  - **Ancient Greece:**
    800 BC to 146 BC
  - **Hellenistic Period:**
    323 BC to 31 BC
  - **Ancient Rome:**
    753 BC to 476 CE



(Common Era, aka AD, numbering from here down)

MEDIEVAL PERIOD (MIDDLE AGES)

- **Early Middle Ages:**
  476 to 1000
- **High Middle Ages:**
  1000 to 1300
- **Late Middle Ages:**
  1300 to 1500

RENAISSANCE

- **Early Renaissance:**
  1400 to 1500
- **High Renaissance:**
  1500 to 1600

EARLY MODERN PERIOD

- **Age of Discovery:**
  1400 to 1600
- **Reformation:**
  1517 to 1600
- **Scientific Revolution:**
  1500 to 1700
- **Enlightenment:**
  1600 to 1800

MODERN PERIOD

- **Industrial Revolution:**
  1760 to 1840
- **Victorian Era:**
  1837 to 1901
- **Colonial Era:**
  1500 to 1950
- **World War I:**
  1914 to 1918
- **Interwar Period:**
  1918 to 1939
- **World War II:**
  1939 to 1945

CONTEMPORARY PERIOD

- **Cold War:**
  1947 to 1991
- **Post-Cold War Era:**
  1991 to Present

*Sorry, your wild high school years don't qualify as a historical era.

U.S. Presidents & Vice Presidents

1. GEORGE WASHINGTON (1789–1797)
Vice President: John Adams

2. JOHN ADAMS (1797–1801)
Vice President: Thomas Jefferson

3. THOMAS JEFFERSON (1801–1809)
Vice Presidents: Aaron Burr (1801–1805), George Clinton (1805–1809)

4. JAMES MADISON (1809–1817)
Vice Presidents: George Clinton (1809–1812), Elbridge Gerry (1813–1814)

5. JAMES MONROE (1817–1825)
Vice President: Daniel D. Tompkins

6. JOHN QUINCY ADAMS (1825–1829)
Vice President: John C. Calhoun

7. ANDREW JACKSON (1829–1837)
Vice Presidents: John C. Calhoun (1829–1832), Martin Van Buren (1833–1837)

8. MARTIN VAN BUREN (1837–1841)
Vice President: Richard M. Johnson

9. WILLIAM HENRY HARRISON (1841)
Vice President: John Tyler

10. JOHN TYLER (1841–1845)
No Vice President

11. JAMES K. POLK (1845–1849)
Vice President: George M. Dallas

12. ZACHARY TAYLOR (1849–1850)
Vice President: Millard Fillmore

13. MILLARD FILLMORE (1850–1853)
No Vice President

14. FRANKLIN PIERCE (1853–1857)
Vice President: William R. King

15. JAMES BUCHANAN (1857–1861)
Vice President: John C. Breckinridge

16. ABRAHAM LINCOLN (1861–1865)
Vice Presidents: Hannibal Hamlin (1861–1865), Andrew Johnson (1865)

17. ANDREW JOHNSON (1865–1869)
No Vice President

18. ULYSSES S. GRANT (1869–1877)
Vice Presidents: Schuyler Colfax (1869–1873), Henry Wilson (1873–1875), No VP (1875–1877)

19. RUTHERFORD B. HAYES (1877–1881)
Vice President: William A. Wheeler

20. JAMES A. GARFIELD (1881)
Vice President: Chester A. Arthur

21. CHESTER A. ARTHUR (1881–1885)
No Vice President

22. GROVER CLEVELAND (1885–1889)
Vice President: Thomas A. Hendricks (1885), No VP (1885–1889)

23. BENJAMIN HARRISON (1889–1893)
Vice President: Levi P. Morton

24. GROVER CLEVELAND (1893–1897)
Vice President: Adlai E. Stevenson

25. WILLIAM McKINLEY (1897–1901)
Vice Presidents: Garret A. Hobart (1897–1899), Theodore Roosevelt (1901)

26. THEODORE ROOSEVELT (1901–1909)
Vice President: No VP 1901–1905, Charles W. Fairbanks (1905–1909)

27. WILLIAM HOWARD TAFT (1909–1913)
Vice President: James S. Sherman (1909–1912), No VP (1912–1913)

28. WOODROW WILSON (1913–1921)
Vice President: Thomas R. Marshall

29. WARREN G. HARDING (1921–1923)
Vice President: Calvin Coolidge

30. CALVIN COOLIDGE (1923–1929)
Vice President: Charles G. Dawes (1925–1929)

31. HERBERT HOOVER (1929–1933)
Vice President: Charles Curtis

32. FRANKLIN D. ROOSEVELT (1933–1945)
Vice Presidents: John Nance Garner (1933–1941), Henry A. Wallace (1941–1945), Harry S. Truman (1945)

33. HARRY S. TRUMAN (1945–1953)
Vice President: No VP (1945–1949) Alben W. Barkley (1949–1953)

34. DWIGHT D. EISENHOWER (1953–1961)
Vice President: Richard Nixon

35. JOHN F. KENNEDY (1961–1963)
Vice President: Lyndon B. Johnson

36. LYNDON B. JOHNSON (1963–1969)
Vice President: No VP (1963–1965), Hubert H. Humphrey (1965–1969)

37. RICHARD NIXON (1969–1974)
Vice Presidents: Spiro T. Agnew (1969–1973), Gerald R. Ford (1973–1974)

38. GERALD FORD (1974–1977)
Vice President: Nelson Rockefeller

39. JIMMY CARTER (1977–1981)
Vice President: Walter Mondale

40. RONALD REAGAN (1981–1989)
Vice President: George H. W. Bush

41. GEORGE H. W. BUSH (1989–1993)
Vice President: Dan Quayle

42. BILL CLINTON (1993–2001)
Vice President: Al Gore

43. GEORGE W. BUSH (2001–2009)
Vice President: Dick Cheney

44. BARACK OBAMA (2009–2017)
Vice President: Joe Biden

45. DONALD TRUMP (2017–2021)
Vice President: Mike Pence

46. JOE BIDEN (2021–2025)
Vice President: Kamala Harris

U.S. States in Order of Admission to the Union

STATE	DATE	NICKNAME	CAPITAL
Delaware	December 7, 1787	The First State	Dover
Pennsylvania	December 12, 1787	The Keystone State	Harrisburg
New Jersey	December 18, 1787	The Garden State	Trenton
Georgia	January 2, 1788	The Peach State	Atlanta
Connecticut	January 9, 1788	The Constitution State	Hartford
Massachusetts	February 6, 1788	The Bay State	Boston
Maryland	April 28, 1788	The Old Line State	Annapolis
South Carolina	May 23, 1788	The Palmetto State	Columbia
New Hampshire	June 21, 1788	The Granite State	Concord
Virginia	June 25, 1788	The Old Dominion	Richmond
New York	July 26, 1788	The Empire State	Albany
North Carolina	November 21, 1789	The Tarheel State	Raleigh
Rhode Island	May 29, 1790	The Ocean State	Providence
Vermont	March 4, 1791	The Green Mountain State	Montpelier
Kentucky	June 1, 1792	The Bluegrass State	Frankfort
Tennessee	June 1, 1796	The Volunteer State	Nashville
Ohio	March 1, 1803	The Buckeye State	Columbus
Louisiana	April 30, 1812	The Pelican State	Baton Rouge
Indiana	December 11, 1816	The Hoosier State	Indianapolis
Mississippi	December 10, 1817	The Magnolia State	Jackson
Illinois	December 3, 1818	The Land of Lincoln	Springfield
Alabama	December 14, 1819	The Heart of Dixie	Montgomery
Maine	March 15, 1820	The Pine Tree State	Augusta
Missouri	August 10, 1821	The Show Me State	Jefferson City
Arkansas	June 15, 1836	The Natural State	Little Rock
Michigan	January 26, 1837	The Great Lake State	Lansing
Florida	March 3, 1845	The Sunshine State	Tallahassee
Texas	December 29, 1845	The Lone Star State	Austin
Iowa	December 28, 1846	The Hawkeye State	Des Moines
Wisconsin	May 29, 1848	The Badger State	Madison
California	September 9, 1850	The Golden State	Sacramento
Minnesota	May 11, 1858	The North Star State	Saint Paul
Oregon	February 14, 1859	The Beaver State	Salem
Kansas	January 29, 1861	The Sunflower State	Topeka
West Virginia	June 20, 1863	The Mountain State	Charleston
Nevada	October 31, 1864	The Silver State	Carson City
Nebraska	March 1, 1867	The Cornhusker State	Lincoln
Colorado	August 1, 1876	The Centennial State	Denver
North Dakota	November 2, 1889	The Peace Garden State	Bismarck
South Dakota	November 2, 1889	The Mount Rushmore State	Pierre
Montana	November 8, 1889	The Treasure State	Helena
Washington	November 11, 1889	The Evergreen State	Olympia
Idaho	July 3, 1890	The Gem State	Boise
Wyoming	July 10, 1890	The Equality State	Cheyenne
Utah	January 4, 1896	The Beehive State	Salt Lake City
Oklahoma	November 16, 1907	The Sooner State	Oklahoma City
New Mexico	January 6, 1912	The Land of Enchantment	Santa Fe
Arizona	February 14, 1912	The Grand Canyon State	Phoenix
Alaska	January 3, 1959	The Last Frontier	Juneau
Hawaii	August 21, 1959	The Aloha State	Honolulu

American Farmers Almanac 2025

EDITOR: Steve Russell

ART DIRECTION: Jessica Hagenbuch

PHOTO EDITOR: Lauren Curtis

WEATHER CONSULTANT: Dr. Ryan Truchelut, Weather Tiger LLC

ASTRONOMY CONSULTANT: Kevin N. Ortiz Ceballos,
Center for Astrophysics | Harvard & Smithsonian

MANAGING EDITOR: Amy Connell

COPY EDITOR: Diane Hodges

PRODUCTION: Mark E. Green

ADVERTISING SALES
(Magazine & Digital)

EVP, Chief Revenue Officer: CAREY WITMER

New York Office VP, Director – East Coast: MEGAN PICKERELLI

Midwest Office/Chicago VP, Director – Midwest: CHRISTOPHER SVOBODA

West Coast/California Office VP, Directors – West Coast: SHELLEY FARIELLO, AMY VAN ETTEN

VP, Direct Advertising Director: LORELIS MARTE

SVP, Marketing: SUSAN PARKES

VP, Integrated Marketing: PAMELA MADDEN

Advertising Operations Director: JAIME RABB

VP, Editorial Director: JAMES HEIDENRY

a360media, LLC
270 Sylvan Ave., 2nd Floor, Englewood Cliffs, NJ 07632
(800) 749-7733

EVP, Consumer Revenue: ERIC SZEGDA

Chief Content Officer: AMANDA DAMERON

Chief Digital Officer: ANDY WILSON

VP, Consumer Marketing: HOLLY OAKES, TOM MALONEY

Senior Director, Consumer Marketing: BRIAN THEVENY, KERRY BERLET

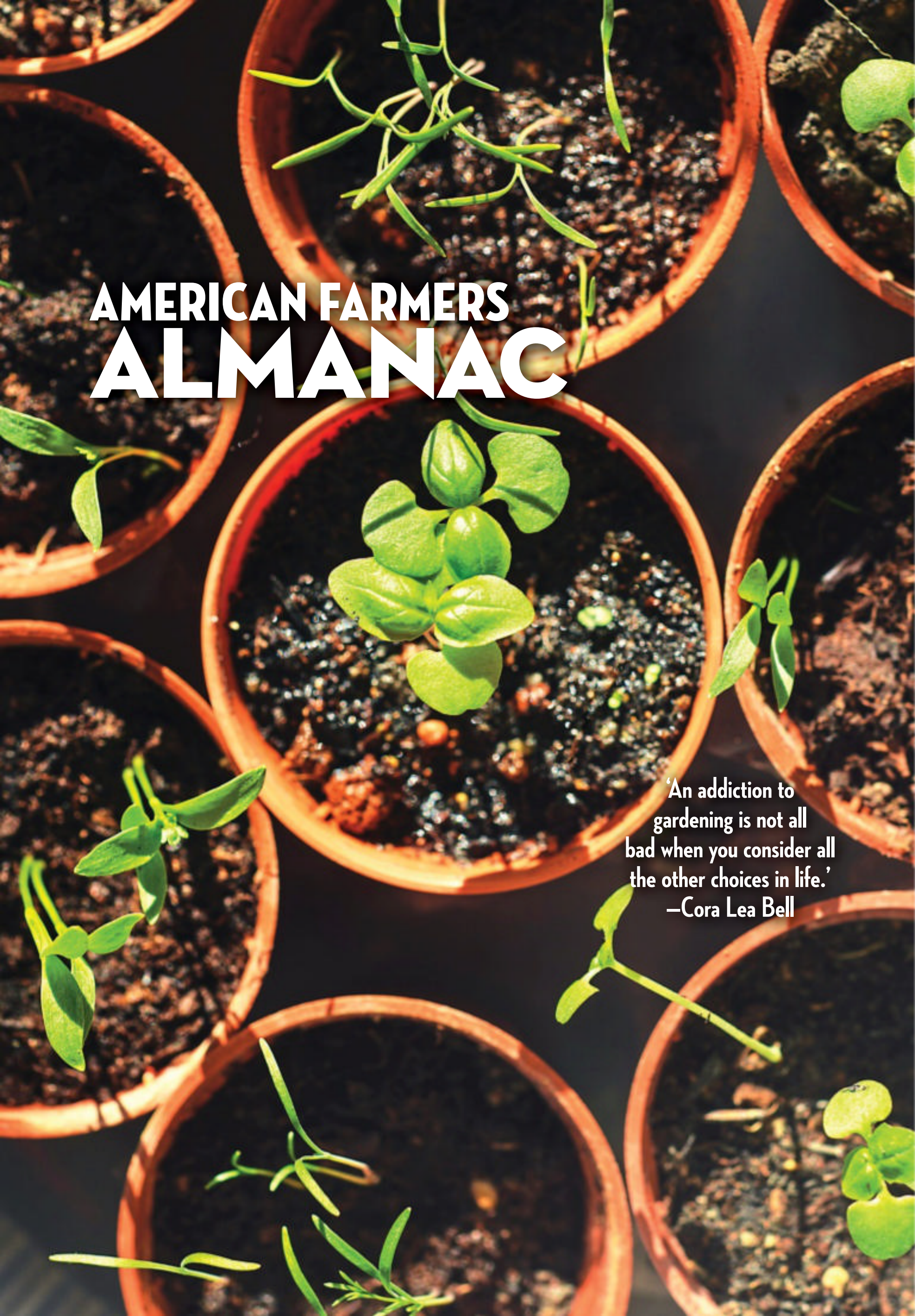
Director, Consumer Marketing: MELANIE PISELLI

Circulation Manager: BILL FIAKOS

VP, Publishing Services & Production: JACQUELYN LAMORTE

Published by A360 Media.

All rights reserved. Reproduction in whole or in part without prior permission of the publisher is prohibited. Printed in the U.S.A.



AMERICAN FARMERS
ALMANAC

'An addiction to
gardening is not all
bad when you consider all
the other choices in life.'
—Cora Lea Bell